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YEAR 2015 WEST PALM BEACH URBAN STUDY AREA LONG RANGE TRANSPORTATION PLAN UPDATE

2015 COST FEASIBLE PLAN

AIR QUALITY CONFORMITY REVIEW

ADJUSTMENTS TO NO_x EMISSIONS

*****FINAL DRAFT*****

Prepared For:

FLORIDA DEPARTMENT OF TRANSPORTATION
and
MPO OF PALM BEACH COUNTY

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INTRODUCTION

The Year 2015 West Palm Beach Urban Study Area (WPBUSA) Cost Feasible Plan was completed on November 16, 1995. Air quality conformity must be maintained for the Plan Update. This report documents the base modeling emission and off-model adjustments which apply for the WPBUSA Cost Feasible Plan.

1.0 BASE MODEL NO_x EMISSION

The 1990 air quality emission for NO_x has been recorded as 56.58 tons in the field. The year 2015 WPBUSA Cost Feasible Plan NO_x emission is required to maintain 95 percent of the 1990 value. Accordingly, year 2015 NO_x emission budget is allowed as 53.75 tons.

To obtain NO_x emissions, the Year 2015 WPBUSA Cost Feasible Plan model traffic forecasts are analyzed using the Florida Standard Urban Transportation Model Structure (FSUTMS) and the associated MOBILE5a air quality emissions program. The MOBILE5a NO_x emission is then adjusted based on a spreadsheet developed by the Florida Department of Environmental Protection (FDEP). The emission rates and the Vehicle Miles of Travel (VMT) information from the MOBILE5a output file are utilized as inputs to the FDEP spreadsheet. Figure 1 in **Appendix A-1** depicts the steps involved in obtaining the final FDEP spreadsheet NO_x projections.

1.1 Initial Model NO_x Emissions Based on National Year 2015 VMT Mix

Recent NO_x emissions furnished by the FDEP, based on initial VMT estimates of 28,333,346 VMT, have been reported as 59.70 tons per day. Subsequently, minor changes have been made to the Year 2015 WPBUSA Cost Feasible Plan to reflect minor adjustments to the Tri-Rail system, which were incorporated during the MPO's adoption of the Plan. The revised VMT estimate of 28,082,944 VMT corresponds to a FDEP spreadsheet adjusted emission of 59.18 tons (see **Appendix A-2**) and reflects the use of national VMT mix projections for year 2015.

1.2 Refined Model NO_x Emissions Based on Revised Year 2015 VMT Mix

The VMT Mix represents the fraction of each of the eight vehicle types used in MOBILE5a. The VMT Mix fractions are used to distribute the total vehicle miles travel according to the vehicle miles travel of each of the eight vehicle types. MOBILE5a's default setup calculates the VMT mix based on national data characterizing vehicle registration distributions and annual mileage accumulation rates by age for each vehicle type, diesel sales fraction by model year (for LDVs and LDTs only), total HDDV registrations and annual mileage accumulations by weight class, and total vehicle counts (fleet size) by vehicle type. However, MOBILE5a documentation recommends that individual states (or local jurisdictions) develop and apply their own estimates of VMT mix for use in the development of highway vehicle emission inventories for CAA-mandated and SIP related programs. To achieve this, it is required that estimates of percentage of each of the eight vehicle types used in MOBILE5a;

namely, Light Duty Gasoline Vehicle (LDGV), Light Duty Gasoline Truck1 (LDGT1), Light Duty Gasoline Truck2 (LDGT2), Heavy Duty Gasoline Vehicle (HDGV), Light Duty Diesel Vehicle (LDDV), Light Duty Diesel Truck (LDDT), Heavy Duty Diesel Vehicle (HDDV), and Motor Cycle (MC) be developed.

LCE reviewed VMT mix estimates for West Palm Beach County based on Department of Highway Safety and Motor Vehicle's (DHSMV's) vehicle registration information. The DHSMV data included information about the yearly number of vehicle registration transactions for each vehicle type such as passenger car, truck, trailer, truck tractors, buses, and recreational vehicles. This information was reorganized and regrouped to reflect the MOBILE5a vehicle mix classification system of Light Duty Vehicle (LDV), Light Duty Truck (LDT), Heavy Duty Vehicle (HDV), and Motor Cycle (MC). **Appendix A-3** presents the field VMT mix information for fiscal years 1980-81 through 1991-92. This information is also shown graphically in **Appendix A-4.** Clearly, both the data and the graphs indicate that relative percentage of each vehicle type did not record any trend; i.e., over a period of 10 years, there was no significant difference in the percentage of LDV, LDT, and HDV fractions. This suggests that, unless any major TCM and TDM strategies are implemented, we should not expect any change in the VMT mix fractions in the future years.

Since the Year 2015 WPBUSA Cost Feasible Plan modeling does not include any TCM and TDM strategies that can potentially alter the VMT mix fractions (these considerations are reviewed as off-model adjustments in the following section), it is proposed that Year 1990 VMT mix fractions be used for Year 2015 emission runs. The 1990 MOBILE5a VMT mix, though different from the Palm Beach County in-field VMT mix, provides more realistic emissions as compared to the field VMT mix. Therefore, using the Year 1990 VMT mix fractions, the NO_x emission based on the FDEP spreadsheet is estimated as 53.85 tons (see **Appendix A-5**).

2.0 OFF-MODEL ADJUSTMENTS TO NO_x EMISSION

Leftwich Consulting Engineers, Inc. reviewed the off-model adjustments applicable for the Year 2015 WPBUSA Cost Feasible Plan. Usage of these off-model adjustments are often recommended since emission reductions due to various congestion mitigation programs implemented can not be modeled using traditional travel demand forecasting models.

LCE performed detailed analyses of possible off-model adjustments applicable to NO_x emission for the Year 2015 WPBUSA Cost Feasible Plan. The off-model adjustments presented include the following considerations: Transportation Control Measures (TCM), I-95/I-595 Multimodal Transportation Corridor Master Plan mode split alternatives, and alternative fuel usage.

2.1 Transportation Control Measures (TCM)

Transportation Control Measures (TCM) strategies such as telecommunication and signal coordination are not reflected within the estimated air quality emissions. William R. Loudon and Deborah A. Dagang in a paper titled "Evaluating the Effects of Transportation Control Measures" reviewed the impacts of various TCMs on emissions (see **Appendix B-1**). Transit service expansion, parking management, variable work hours, telecommunication and compressed work weeks, land use management, signalization, ridesharing, and increased gas tax cost were the parameters which were evaluated. Though increased gas tax costs represented the highest possible decrease in NO_x emissions, several other parameters also showed significant reductions. The following summarizes the daily NO_x reductions established:

● Transit Service Expansion	- 0.4 Percent
● Parking Management	- 3.0 Percent
● Variable Work Hours	- 0.0 Percent
● **Telecommunications**	**- 0.4 Percent**
● Land Use Management	- 2.2 Percent
● **Signalization**	**- 1.5 Percent**
● Ridesharing	- 0.5 Percent
● Gas Tax	- 5.9 Percent

Each of these reductions are addressed below, with the highlighted ones (telecommuting and signalization) being addressed as potential reductions.

The PalmTran 1996 transit system expansion is included in the Year 2015 WPBUSA Cost Feasible Plan modeling. Additional transit system expansion is reviewed with respect to alternative modes associated with the I-95/I-595 Multimodal Transportation Corridor Master Plan (see Section 2.2), as is any effects related to the ridesharing. Parking management would require a significant dedication by the Palm Beach County community and is not being considered for the Year 2015 WPBUSA Cost Feasible Plan. Variable work hours shifts the home-based work trips, but should not decrease number of trips being generated. Land use management is not being considered beyond what has already been incorporated into the adopted land use data being utilized for the Plan Update. Finally, increasing the gas tax would be a monumental task due to definite public opposition and thus is not foreseeable in the near future.

Telecommunications and signal coordination are the variables considered to impact the air quality emission in year 2015. According to *Dr. Roger Wayson* of University of Central Florida (UCF), improvements in computer technology and the increased employer awareness of telecommunication systems, will result in overall decrease of home-based work trips. Signal coordination will reduce the NO_x emissions due to reduced idling time. A combined 1.9 percent (i.e. 0.4 percent for telecommunications and 1.5 for signal coordination) reduction equates to a 1.03 ton reduction (0.22 tons for telecommuting and 0.81 tons for signalization) in NO_x emissions.

2.2 I-95 Alternative Mode Split Analysis

The impact of increased dedication to alternative modes of travel is not adequately accounted for within the transportation modeling for the Year 2015 WPBUSA Cost Feasible Plan. The I-95 corridor, which accounts for a significant portion of the traffic within Palm Beach County and which is projected to be heavily congested by year 2015, represents the area where the dedication to alternative modes will be the most concentrated.

The I-95/I-595 Multi-Modal Transportation Corridor Master Plan is in the process of evaluating transportation needs within the I-95 corridor of Palm Beach County. The study is currently performing its Tier 1 analysis which includes preliminary evaluations of 11 Conceptual Mobility Enhancement Alternatives (CMEAs). A total of 11 CMEAs will be analyzed with the purpose of deriving a preferred cost feasible scenario. The study is scheduled for completion in mid-1998.

The initial 11 Tier 1 CMEAs can be categorized into three concepts (see **Appendix B-2**): 1) More Freeway and Arterial Oriented, 2) More Transportation System Management (TSM) Oriented, and 3) More Bus and Rail Transit Oriented. The More TSM Oriented and More Bus and Rail Transit Oriented concepts have two base CMEAs each. Additionally, there is a Maximum Build Concept which includes all three concepts; there is a Maximum Build Concept within FDOT Interstate Policy Concept; and there is a Maximum Policy Freeway and TSM Concept. Of the 11 CMEAs, 7 CMEAs concentrate heavily on TSM and transit improvements. The other CMEAs are primarily highway oriented. Thus, since there is a limit on the number of lanes which can be added given the existing policy constraints, and the increased concentration on non-single occupancy vehicle approaches to solving future traffic congestion problems, the I-95/I-595 Multi-Modal Master Plan reflects a definite dedication towards decreasing the number of automobile trips within the corridor. In fact, it is stated that:

> "We need to reduce the number of single-occupant vehicles in these corridors [I-95 and I-595] and provide systems which enhance the use of transit and high-occupancy vehicle (HOV) facilities."

In the report titled "I-95/I-595 Multimodal Transportation Corridor Master Plan, Existing and Future Baseline Conditions Technical Report", the future traffic conditions for year 2020 were reviewed along I-95, I-595, the Florida's Turnpike, Cross Streets to I-95 and the Florida's Turnpike, and Cross Streets to I-595 within Palm Beach and Broward Counties. Three different capacity scenarios were reviewed: Approach A - FDOT LOS Tables (April 1992) Used for LOS E (1950 vph); Approach B - FDOT Spreadsheet Used for LOS D (2200 vph); and Approach C - FDOT Spreadsheet Used for LOS E (2300 vph). All segments in the I-95 corridor within Palm Beach County were determined to be over capacity in year 2020 using Approach A or B, and practically at capacity using Approach C.

The preliminary year 2020 capacity analysis for I-95, after adjusting the volumes to correlate with the volume to capacity ratios determined to be acceptable to year 1990 drivers, indicated that segments would have volume to capacity ratios up to 1.8 for Approaches A and B and up to 1.50 for Approach C. Preliminary Alternative Solutions to the congestion problems within the I-95 corridor were reviewed. Adjusted volume to capacity ratios for each of the three approaches (A, B, and C) were reviewed to determine vehicle trips not being accommodated by year 2020. The number of additional lanes needed to provide LOS E in the future were established. In the most optimistic Approach C, only 1 and 2 lanes per direction need to be added to I-95 whereas in Approach A up to 3 and 4 lanes per direction need to be added in some sections of I-95 within Palm Beach County. The vehicle trips were also converted to passenger trips to evaluate different non-highway alternatives (Tri-Rail trains and buses). The analysis was performed assuming an average occupancy rate of 1.4 persons per vehicle, buses at capacity of 55 passengers, Tri-Rail trains at single track capacity of 600 passengers, and Tri-Rail trains at double track capacity of 1200 passengers. **Appendix B-3** includes the summary tables associated with the analysis. The preliminary findings using Approach A indicated that up to about 3000 buses or 200 Tri-Rail trains per day would be required on the heaviest congested sections, or 1700 buses or 100 Tri-Rail trains would be required on an average for the entire Palm Beach County I-95 section studied. This represents on an average 94,545 passenger trips using buses, for example; equating to approximately 28 percent of the average segment equivalent total passenger trips (i.e. average I-95 segments 240,000 vpd x 1.4 pers/veh).

To achieve a switch to alternative modes for approximately 28 percent of I-95 passenger trips within Palm Beach County will likely require a dedication to increasing Tri-Rail, bus, vanpool, as well as carpool usage within the I-95 corridor. The I-95/I-595 Multimodal Transportation Corridor Master Plan will need to fully adhere to the Intermodal Surface Transportation Efficiency Act (ISTEA) requirements to achieve such alternative mode usage.

Accordingly, the preliminary analysis in the report titled "I-95/I-595 Multimodal Transportation Corridor Master Plan, Existing and Future Baseline Conditions Technical Report" demonstrated that:

1) Future year transportation needs can not be accommodated exclusively by means of highway-only solutions;

2) Even with the maximum FDOT policy highway number of lanes allowance, a significant dedication to other alternatives is required; and

3) Relying exclusively on the use of alternative modes along the I-95 to alleviate the congestion would require approximately 28 percent of the passenger trips to use the alternative modes.

The Year 2015 Cost Feasible Plan refers to the I-95/I-595 Multimodal Transportation Corridor Master Plan for its findings relating to eventual improvements within the I-95 corridor. These transportation improvements are not reflected in the air quality assessment for the Year 2015 Cost Feasible Plan. In order to account for the improvements, off-model adjustments associated with the I-95/I-595 Multimodal Transportation Corridor Master Plan need to be applied. Approximately 28 percent of the passenger trips were calculated to need to use the alternative modes for acceptable travel conditions to occur. Applying a conservative 15 percent alternative modes utilization on I-95 within Palm Beach County, or about one half of the 28 percent, results in a NO_x reduction of 2.47 tons. The following summarizes the calculations applied:

Total Palm Beach County VMT (Year 2015 WPBUSA Cost Feasible Plan)	28,082,944 VMT
I-95 VMT (see **Appendix B-4** for Calculation)	8,570,700 VMT
I-95 Percentage of VMT	30.5 %
Percent Reduction of I-95 Vehicle Trips	15.0 %
Percent Reduction of Total Palm Beach County Vehicle Trips (i.e. 30.5% X 15.0%)	4.58 %
NO_x Emissions Reduction (i.e. 4.58% X 53.85 Tons)	**2.47 Tons**

In addition to its dedication to non-SOV solutions, the I-95/I-595 Multimodal Master Plan recognizes the need to decrease or, at a minimum, maintain air quality emissions. Air quality serves as one of the objectives associated with the goal that adverse impacts to the environment be minimized. Specifically, air quality will be measured in the evaluation of each of the CMEAs to be tested. **Appendix B-5** includes a listing of the goals which will be used in the evaluation.

2.3 Alternative Fuels

Alternative fueled vehicles are required by legislation at the following levels for all Federal and State fleets, and fleets operated by private sources involved in the business of producing, transporting, distributing, or selling of petroleum, alternative fuels, and electricity (see **Appendix B-6**):

Federal
- 25 percent of the fleet acquired in fiscal year 1996
- 33 percent of the fleet acquired in fiscal year 1997
- 50 percent of the fleet acquired in fiscal year 1998
- 75 percent of the fleet acquired in fiscal year 1999 and thereafter

State
- 10 percent of the motor vehicles acquired in model year 1996
- 15 percent of the motor vehicles acquired in model year 1997
- 25 percent of the motor vehicles acquired in model year 1998
- 50 percent of the motor vehicles acquired in model year 1999
- 75 percent of the motor vehicles acquired in model year 2000 and thereafter

Private
- 20 percent of the motor vehicles acquired in model years 1999-2001
- 30 percent of the motor vehicles acquired in model year 2002
- 40 percent of the motor vehicles acquired in model year 2003
- 50 percent of the motor vehicles acquired in model year 2004
- 60 percent of the motor vehicles acquired in model year 2005
- 70 percent of the motor vehicles acquired in model year 2006 and thereafter

The following summarizes the NO_x reduction associated with vehicles using the alternate fuels:

Federal and State Vehicles (200 vehicles with an average daily VMT of 50)	10,000
Private Vehicles (1000 vehicles with an average daily VMT of 50)	50,000
Total	60,000
Percent of Total VMT(60,000 X 100% / 28,082,944)	0.21%
Reduction in NOx (i.e. 0.21% X 53.85)	**0.11 Tons**

3.0 FINAL ADJUSTED NOx EMISSIONS

Table 1 summarizes the NO_x reductions associated with each of the off-model adjustment detailed above.

TABLE 1
YEAR 2015 WPBUSA COST FEASIBLE PLAN
PROJECTED NO_X EMISSION

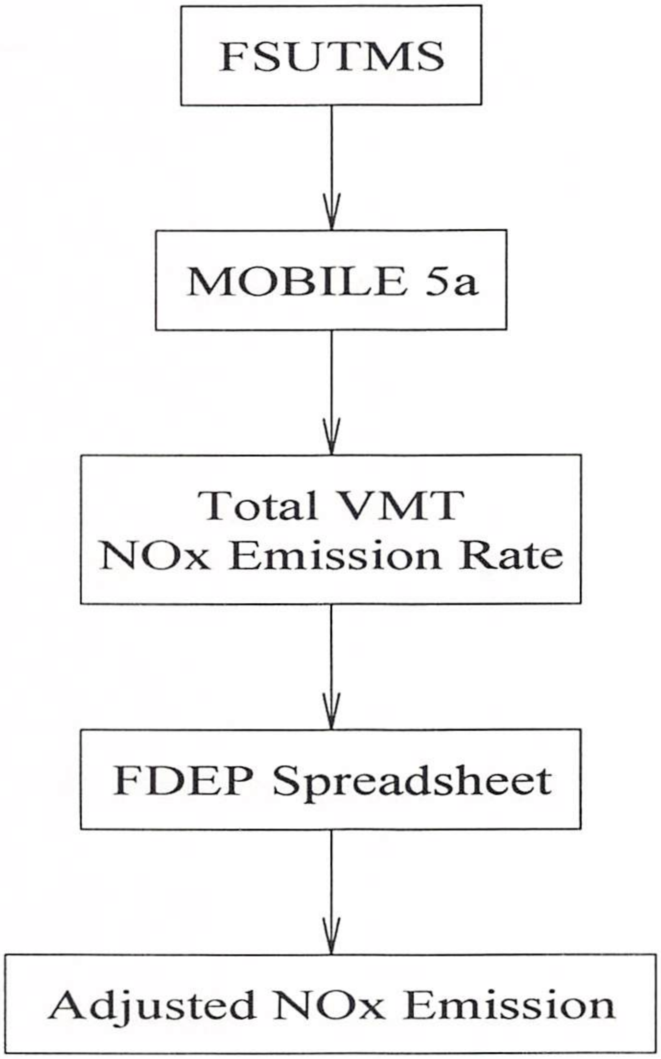
2.1 Base Model Year 2015 NO_x Emission	**53.85 tons**
Off- Model Reductions:	
2.1 TCM (i.e. Telecommunication / Signal Coordination)	1.03 tons
2.2 I-95 Alternative Modes	2.47 tons
2.3 Alternative Fuels	0.11 tons
3.0 Final Adjusted NO_x Emission	50.24 Tons

APPENDICES

Appendix A-1:

BASE MODEL NO_X EMISSION
NO_x Emission Estimation Procedure Using FDEP Spreadsheet
General Flow Chart

NOx Emission Estimation Procedure
Using FDEP Spreadsheet



Appendix A-2:

BASE MODEL NO_X EMISSION
No_x Emission Estimation Procedure Using FDEP Spreadsheet
National VMT Mix

West Palm Beach County On-Road Mobile Source Emissions
With I/M Program and National Year 2015 VMT Mix

NOx Emission Factors

Facility Type	Speed	Vehicle Type							
		LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
Rural:									
Interstate	57.3	1.69	1.86	2.65	5.24	1.39	1.57	8.47	1.42
P.Arterial	45.4	1.33	1.38	1.97	4.83	1.04	1.17	6.30	1.07
M.Arterial	39.9	1.32	1.38	1.96	4.64	0.97	1.09	5.88	1.04
Maj.Col	35.1	1.31	1.38	1.96	4.47	0.94	1.06	5.73	1.00
Min.Col	30.5	1.30	1.38	1.96	4.31	0.95	1.07	5.77	0.95
Locals	19.6	1.23	1.37	1.95	3.93	1.09	1.23	6.60	0.78
Urban:									
Interstate	46.3	1.34	1.38	1.97	4.86	1.05	1.19	6.39	1.08
Turnpike	43.3	1.33	1.38	1.97	4.75	1.00	1.13	6.10	1.06
P.Arterial	18.9	1.24	1.37	1.96	3.91	1.10	1.24	6.70	0.77
M.Arterial	19.6	1.23	1.37	1.95	3.93	1.09	1.23	6.60	0.78
Maj.Col	19.9	1.23	1.37	1.96	3.93	1.09	1.23	6.60	0.78
Locals	19.6	1.23	1.37	1.95	3.93	1.09	1.23	6.60	0.78
VMT Mix		0.581	0.204	0.089	0.033	0.002	0.004	0.083	0.005
Base Year		1990							
Ana. Year		2015							
Conv.Factor		909090.9							

NOx Emissions, Tons Per Day

	ADVMT	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
Rural									
Interstate	610,634	0.661	0.255	0.159	0.116	0.002	0.004	0.473	0.005
P.Arterial	2,150,020	1.831	0.667	0.416	0.378	0.005	0.011	1.239	0.013
M.Arterial	489,510	0.414	0.152	0.094	0.083	0.001	0.002	0.263	0.003
Maj.Col	339,352	0.285	0.105	0.065	0.055	0.001	0.002	0.178	0.002
Min.Col	35,337	0.029	0.011	0.007	0.006	0.000	0.000	0.019	0.000
Locals	137,241	0.108	0.042	0.026	0.020	0.000	0.001	0.083	0.001
Urban									
Interstate	7,822,771	6.713	2.428	1.512	1.383	0.018	0.041	4.573	0.047
Turnpike	752,200	0.641	0.233	0.145	0.130	0.002	0.004	0.420	0.004
P.Arterial	4,867,342	3.865	1.500	0.936	0.692	0.012	0.027	2.984	0.021
M.Arterial	3,787,235	2.983	1.167	0.725	0.541	0.009	0.021	2.287	0.016
Maj.Col	1,871,309	1.474	0.577	0.360	0.268	0.004	0.010	1.130	0.008
Locals	5,219,991	4.112	1.608	0.999	0.746	0.013	0.028	3.152	0.022
Totals	28,082,944	23.117	8.745	5.443	4.418	0.067	0.151	16.801	0.141

Total NOx On-Road Emissions = **58.88 Tons Per Day**

West Palm Beach County On-Road Mobile Source Emissions Without I/M Program and National Year 2015 VMT Mix

NOx Emission Factors

Facility Type	**Speed**	**Vehicle Type** LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
Rural:									
Interstate	57.3	1.73	2.01	2.80	5.24	1.39	1.57	8.47	1.42
P.Arterial	45.4	1.36	1.49	2.08	4.83	1.04	1.17	6.30	1.07
M.Arterial	39.9	1.35	1.49	2.08	4.64	0.97	1.09	5.88	1.04
Maj.Col	35.1	1.34	1.49	2.08	4.47	0.94	1.06	5.73	1.00
Min.Col	30.5	1.32	1.49	2.07	4.31	0.95	1.07	5.77	0.95
Locals	19.6	1.26	1.48	2.07	3.93	1.09	1.23	6.60	0.78
Urban:									
Interstate	46.3	1.36	1.49	2.08	4.86	1.05	1.19	6.39	1.08
Turnpike	43.3	1.36	1.49	2.08	4.75	1.00	1.13	6.10	1.06
P.Arterial	18.9	1.26	1.48	2.07	3.91	1.10	1.24	6.70	0.77
M.Arterial	19.6	1.26	1.48	2.07	3.93	1.09	1.23	6.60	0.78
Maj.Col	19.9	1.26	1.48	2.07	3.93	1.09	1.23	6.60	0.78
Locals	19.6	1.26	1.48	2.07	3.93	1.09	1.23	6.60	0.78
VMT Mix		**0.581**	**0.204**	**0.089**	**0.033**	**0.002**	**0.004**	**0.083**	**0.005**
Base Year		**1990**							
Ana. Year		**2015**							
Conv.Factor		**907184.0**							

NOx Emissions, Tons Per Day

	ADVMT	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
Rural									
Interstate	610,634	0.677	0.276	0.168	0.116	0.002	0.004	0.473	0.005
P.Arterial	2,150,020	1.873	0.720	0.439	0.378	0.005	0.011	1.239	0.013
M.Arterial	489,510	0.423	0.164	0.100	0.083	0.001	0.002	0.263	0.003
Maj.Col	339,352	0.291	0.114	0.069	0.055	0.001	0.002	0.178	0.002
Min.Col	35,337	0.030	0.012	0.007	0.006	0.000	0.000	0.019	0.000
Locals	137,241	0.111	0.046	0.028	0.020	0.000	0.001	0.083	0.001
Urban									
Interstate	7,822,771	6.814	2.621	1.596	1.383	0.018	0.041	4.573	0.047
Turnpike	752,200	0.655	0.252	0.153	0.130	0.002	0.004	0.420	0.004
P.Arterial	4,867,342	3.928	1.620	0.988	0.692	0.012	0.027	2.984	0.021
M.Arterial	3,787,235	3.056	1.260	0.769	0.541	0.009	0.021	2.287	0.016
Maj.Col	1,871,309	1.510	0.623	0.380	0.268	0.004	0.010	1.130	0.008
Locals	5,219,991	4.212	1.737	1.060	0.746	0.013	0.028	3.152	0.022
Totals	28,082,944	23.579	9.445	5.758	4.418	0.067	0.151	16.801	0.141

Total NOx On-Road Emissions = **60.36 Tons Per Day**

80 Percent Credit Calculation:

NOx Emissions without I/M : 60.36

NOx Emissions with I/M : 58.88

Difference: 1.48

Adjusted NOx Emission: **59.18** tons per day

Appendix A-3:

BASE MODEL NO_X EMISSION
Historical Vehicle Mix Data

HISTORICAL VEHICLE MIX DATA

Year	LDV	LDT	HDV	MC
1981	75.40%	18.69%	3.62%	2.29%
1982	75.60%	18.62%	3.67%	2.11%
1983	75.87%	18.61%	3.53%	1.99%
1984	76.46%	18.43%	3.27%	1.85%
1985	76.62%	18.64%	2.94%	1.80%
1986	75.25%	19.06%	3.98%	1.71%
1987	75.92%	19.38%	3.06%	1.64%
1988	76.10%	19.43%	2.88%	1.59%
1989	76.15%	19.46%	2.93%	1.46%
1990	76.63%	19.06%	2.90%	1.40%
1991	76.05%	19.26%	3.13%	1.56%
1992	76.50%	18.96%	3.09%	1.45%

Note: Information reviewed as general reference for establishing historical trends; vehicle mix not utilized for evaluating WPBUSA 2015 Plan Update vehicle emissions.

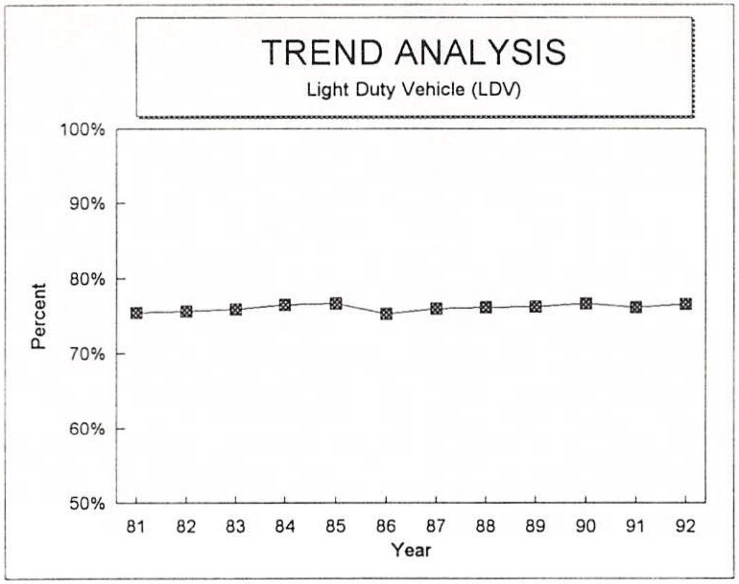
Source: Department of Highway Safety and Motor Vehicles

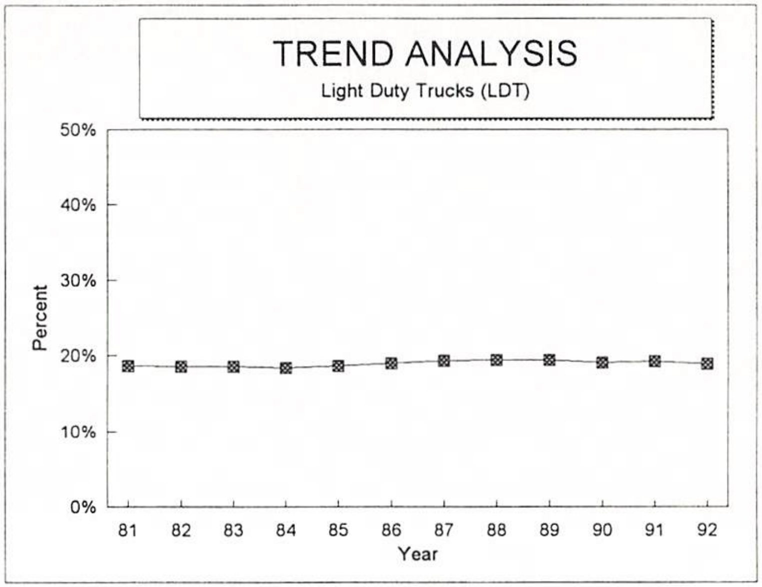
Appendix A-4:

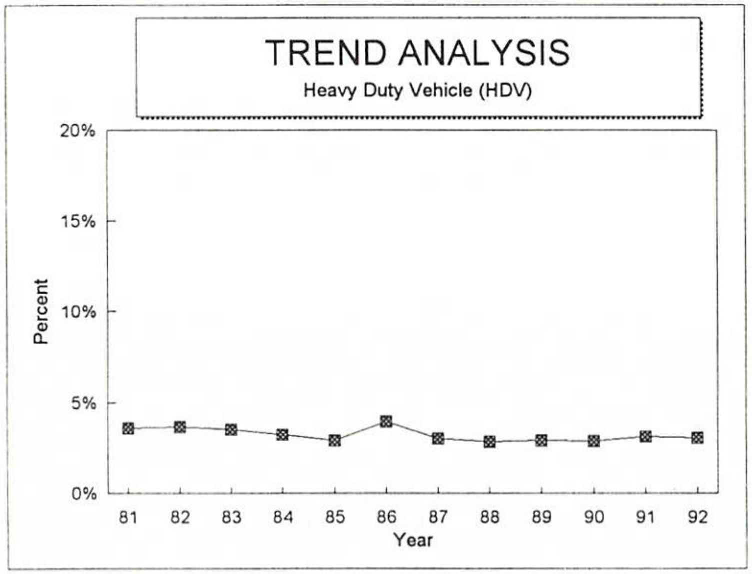
BASE MODEL NO_X EMISSION
VMT Mix Trend Analysis

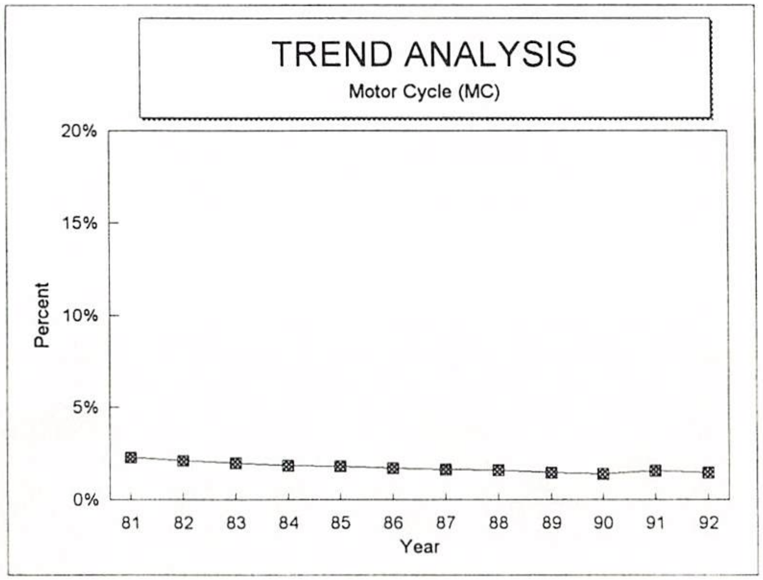
Vehicle Registration Transactions

Trend Analysis









Appendix A-5:

BASE MODEL NO_X EMISSION
NO_x Emission Estimation Procedure Using FDEP Spreadsheet
Revised VMT Mix

West Palm Beach County On-Road Mobile Source Emissions With I/M Program and Revised Year 2015 VMT Mix

NOx Emission Factors

Facility Type	Speed	Vehicle Type							
		LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
Rural:									
Interstate	57.3	1.69	1.87	2.65	5.24	1.40	1.58	8.48	1.42
P.Arterial	45.4	1.33	1.38	1.97	4.82	1.04	1.17	6.31	1.07
M.Arterial	39.9	1.32	1.38	1.96	4.64	0.97	1.09	5.88	1.04
Maj.Col	35.1	1.31	1.38	1.96	4.47	0.94	1.07	5.74	1.00
Min.Col	30.5	1.30	1.38	1.96	4.29	0.95	1.07	5.78	0.94
Locals	19.6	1.25	1.37	1.95	3.93	1.09	1.23	6.62	0.78
Urban:									
Interstate	46.3	1.33	1.38	1.97	4.86	1.06	1.19	6.41	1.08
Turnpike	43.3	1.33	1.38	1.97	4.75	1.01	1.13	6.11	1.06
P.Arterial	18.9	1.24	1.38	1.95	3.91	1.10	1.25	6.71	0.77
M.Arterial	19.6	1.25	1.37	1.95	3.93	1.09	1.23	6.62	0.78
Maj.Col	19.9	1.25	1.37	1.95	3.94	1.08	1.22	6.58	0.79
Locals	19.6	1.25	1.37	1.95	3.93	1.09	1.23	6.62	0.78
VMT Mix		**0.653**	**0.163**	**0.082**	**0.031**	**0.008**	**0.002**	**0.053**	**0.008**
Base Year		**1990**							
Ana. Year		**2015**							
Conv.Factor		**907184.0**							

NOx Emissions, Tons Per Day

	ADVMT	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
Rural									
Interstate	610,634	0.744	0.205	0.146	0.109	0.008	0.002	0.303	0.008
P.Arterial	2,150,020	2.060	0.533	0.383	0.354	0.020	0.006	0.792	0.020
M.Arterial	489,510	0.466	0.121	0.087	0.078	0.004	0.001	0.168	0.004
Maj.Col	339,352	0.320	0.084	0.060	0.052	0.003	0.001	0.114	0.003
Min.Col	35,337	0.033	0.009	0.006	0.005	0.000	0.000	0.012	0.000
Locals	137,241	0.123	0.034	0.024	0.018	0.001	0.000	0.053	0.001
Urban									
Interstate	7,822,771	7.514	1.940	1.393	1.299	0.073	0.020	2.928	0.074
Turnpike	752,200	0.720	0.187	0.134	0.122	0.007	0.002	0.269	0.007
P.Arterial	4,867,342	4.355	1.204	0.860	0.650	0.047	0.013	1.908	0.033
M.Arterial	3,787,235	3.395	0.935	0.667	0.509	0.036	0.010	1.464	0.026
Maj.Col	1,871,309	1.679	0.462	0.329	0.252	0.018	0.005	0.719	0.013
Locals	5,219,991	4.679	1.289	0.920	0.702	0.050	0.014	2.018	0.036
Totals	28,082,944	26.088	7.003	5.010	4.151	0.267	0.075	10.747	0.226

Total NOx On-Road Emissions = **53.57 Tons Per Day**

West Palm Beach County On-Road Mobile Source Emissions Without I/M Program and Revised Year 2015 VMT Mix

NOx Emission Factors

Facility Type	**Speed**	**Vehicle Type**							
		LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
Rural:									
Interstate	57.3	1.71	1.99	2.78	5.24	1.38	1.55	8.40	1.41
P.Arterial	45.4	1.36	1.49	2.09	4.83	1.04	1.17	6.32	1.07
M.Arterial	39.9	1.35	1.49	2.08	4.62	0.96	1.08	5.85	1.03
Maj.Col	35.1	1.34	1.49	2.08	4.48	0.94	1.06	5.75	1.00
Min.Col	30.5	1.32	1.49	2.07	4.32	0.95	1.07	5.78	0.95
Locals	19.6	1.27	1.48	2.07	3.94	1.09	1.23	6.63	0.78
Urban:									
Interstate	46.3	1.36	1.49	2.09	4.87	1.06	1.19	6.42	1.08
Turnpike	43.3	1.35	1.49	2.08	4.76	1.01	1.13	6.12	1.06
P.Arterial	18.9	1.27	1.49	2.07	3.92	1.10	1.25	6.72	0.77
M.Arterial	19.6	1.27	1.48	2.07	3.94	1.09	1.23	6.63	0.78
Maj.Col	19.9	1.27	1.48	2.07	3.95	1.08	1.22	6.59	0.79
Locals	19.6	1.27	1.48	2.07	3.94	1.09	1.23	6.63	0.78
VMT Mix		**0.653**	**0.163**	**0.082**	**0.031**	**0.008**	**0.002**	**0.053**	**0.008**
Base Year		**1990**							
Ana. Year		**2015**							
Conv.Factor		**907184.0**							

NOx Emissions, Tons Per Day

	ADVMT	LDGV	LDGT1	LDGT2	HDGV	LDDV	LDDT	HDDV	MC
Rural									
Interstate	610,634	0.752	0.218	0.153	0.109	0.007	0.002	0.300	0.008
P.Arterial	2,150,020	2.105	0.576	0.406	0.355	0.020	0.006	0.793	0.020
M.Arterial	489,510	0.476	0.131	0.092	0.077	0.004	0.001	0.167	0.004
Maj.Col	339,352	0.327	0.091	0.064	0.052	0.003	0.001	0.114	0.003
Min.Col	35,337	0.034	0.009	0.007	0.005	0.000	0.000	0.012	0.000
Locals	137,241	0.125	0.037	0.026	0.018	0.001	0.000	0.053	0.001
Urban									
Interstate	7,822,771	7.658	2.100	1.478	1.301	0.073	0.020	2.933	0.074
Turnpike	752,200	0.733	0.201	0.142	0.122	0.007	0.002	0.269	0.007
P.Arterial	4,867,342	4.450	1.300	0.912	0.652	0.047	0.013	1.911	0.033
M.Arterial	3,787,235	3.462	1.010	0.708	0.510	0.036	0.010	1.466	0.026
Maj.Col	1,871,309	1.711	0.499	0.350	0.253	0.018	0.005	0.720	0.013
Locals	5,219,991	4.772	1.392	0.976	0.703	0.050	0.014	2.021	0.036
Totals	28,082,944	26.603	7.566	5.314	4.160	0.267	0.075	10.759	0.226

Total NOx On-Road Emissions = **54.97 Tons Per Day**

80 Percent Credit Calculation:

NOx Emissions without I/M : 54.97

NOx Emissions with I/M : 53.57

Difference: 1.40

Adjusted NOx Emission: **53.85** tons per day

Appendix B-1:

OFF-MODEL ADJUSTMENTS FOR NO_X EMISSION
"Evaluating the Effects of Transportation Control Measures"

New laws and regulations on mobile sources have created many new challenges for transportation engineers and air quality planners. They must aim to enhance mobility, while also improving air quality. This book surveys key transportation planning aspects and air quality technical details involved with improving both traffic and emission estimation procedures from a broad array of related disciplines. What is the role of transportation control measures in reducing air pollution? Will Intelligent Highway Systems have favorable impact on the ever-growing emissions problems? Detailed technical papers examine these questions and additional issues concerned with transportation SIP requirements; traffic projections and uncertainties; speed and vehicle mix; public participation; mass transportation; and alternative fuels.

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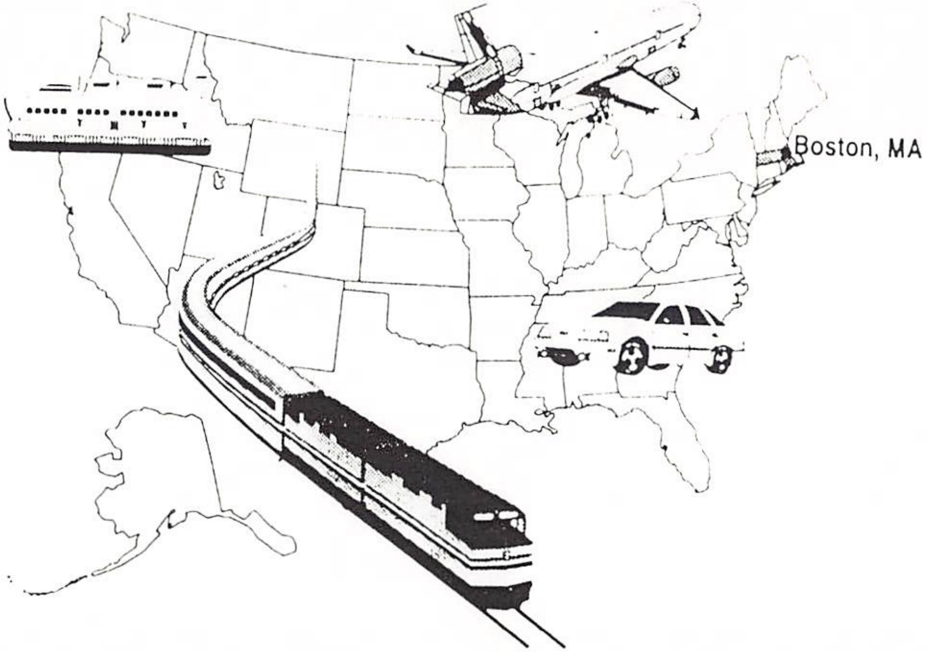
Transportation Planning and Air Quality II

Transportation
Planning
and
Air Quality II



Edited by
Thomas F. Wholley

be used to evaluate those measures that affect mode split, through a change in time or cost, the composition of the highway or transit network, or land use inputs.

The TDM measures listed range from those measures that directly affect travel time or travel cost, such as an employee transit pass subsidy, to those measures that affect alternative mode usage indirectly, possibly by supporting another measure. The TDM measures that impact alternative mode usage indirectly include commute information program, on-site transit pass sales, corridor level vanpool program, guaranteed ride home program, and design features. These measures are difficult to quantify using traditional analytical techniques, and reported experiences tend to be anecdotal. Although difficult to quantify, these measures are often cited by Employee Transportation Coordinators (ETCs) as significant factors that influence another measure's success. For example, the provision of an employee transit pass subsidy is likely to be more effective if information is provided to the employees regarding the availability of the pass subsidy and the routing and frequency of the transit system. The lunch time shuttle service has not explicitly been addressed by the models, which tend to be more oriented to the commute trip and/or area-wide measures. Also, traditional trip types do not segment lunch trips from other work-based trips.

Example Application of TCM Tools

To provide an example of the results that would be obtained from using TCM Tools, it was applied to a major metropolitan area in California. The specific TCMs evaluated are:

- *Transit Service Expansion* - Implementation of a Long Range Transit Plan that includes rail expansion and a doubling of the annual bus miles.
- *Parking Management* - A minimum parking charge of $3.00 per day for commute trips: a sixty percent increase in the average commute charge.
- *Variable Work Hours* - Incentives to employees to shift their commute hours that results in a five percent participation by the work force.
- *Telecommunications and Compressed Work Weeks* - A workforce participation rate of fifteen percent; each participant reduces their trips by ten percent.
- *Land Use Management* - New zoning controls to achieve a greater jobs/housing balance and, through this, a ten percent average reduction in commute trip length.
- *Signalization* - Implement an advanced computer-based traffic signal control program for all major arterials in the area.

- *Ridesharing* - Require employers to establish incentives to increase employee vehicle occupancy levels.
- *Gas Tax* - Increase the current cost of gasoline per gallon by $1.00, from $1.13 to $2.13.

In Figures 6 to 11, the effect of each of the above individual TCMs on peak period and off-peak period trips, VMT, and speeds is illustrated as a percentage change. The effectiveness of each of the TCMs varies for each of the transportation measures. For example, *signalization* provides a speed improvement, but does not affect the number of trips made. The TCMs that had the most significant affect on the number of peak and off-peak trips made were *parking management* and *gas tax*, which, along with *land use management*, also had the greatest impact on VMT. *Signalization, land use management*, and *parking management* had the greatest impact on speeds in the peak period, while *gas tax* and *signalization* had the greatest impact in the off-peak period.

For each TCM, the change in trips, VMT, and speed were used in the emissions module of the model to determine emission reductions for HC, NOx, and CO. The total daily emissions reduction for each of these pollutants is illustrated in Figures 12 to 14. For this sample calculation, the most significant reduction in each of the pollutants occurs as a result of the economic measures: *gas tax* and *parking management*. The measure that appears to be the least effective at reducing emissions is *variable work hours*.

The impact of the measures on emissions varies depending upon the extent to which each travel characteristic is impacted and which pollutant is examined. The single most significant travel characteristic for emissions reductions is "trips". For example, compare the emission reductions obtained from *land use management* (defined as zoning controls to achieve a greater jobs/housing balance) and *parking management*, both of which affect only commute travel in this example. *Land use management* results in a slightly greater VMT reduction and speed increase than does *parking management* in both the peak and off-peak. The biggest difference between the two measures, however, is in trip reduction. *Parking management* results in a 6.2 percent decrease in peak period trips and a 2.6 percent decrease in off-peak period trips while there is no trip reduction associated with *land use management.Parking management* results in a significantly greater reduction than *land use management* of all three pollutant emissions: HC by 80 percent, NOx by 40 percent, and CO by 110 percent.

The impact of measures that only affect speed, such as *signalization*, depends upon the pollutant and the base speed before the improvement. When examining daily pollutant reductions, *variable work hours* also only affects speed, because trips and VMT are shifted from the peak period to the off-peak period.

Figure 6 The Effect of Individual TCM's On Trips During the Peak Period.

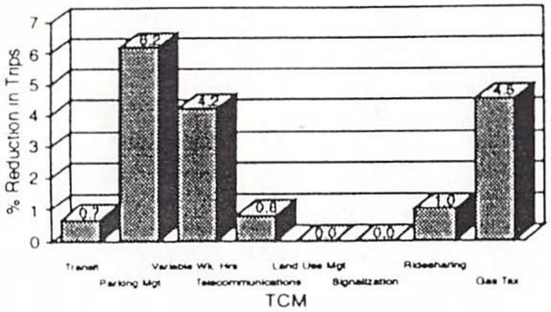


Figure 7 The Effect of Individual TCM's On Trips During the Off-Peak Period.

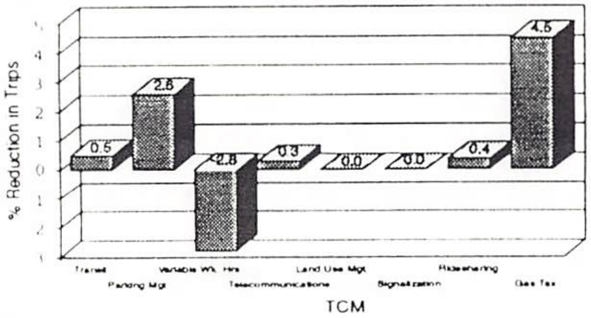


Figure 8 The Effect of Individual TCM's On VMT During the Peak Period.

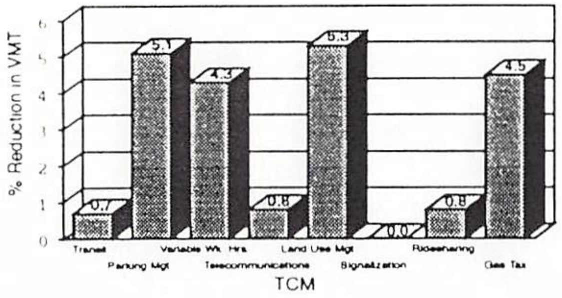


Figure 9 The Effect of Individual TCMs On VMT During the Off-Peak Period.

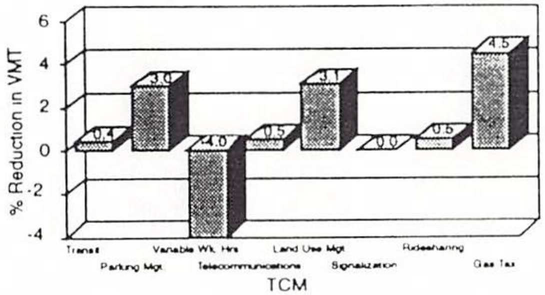


Figure 10 The Effect of Individual TCMs On Speed During the Peak Period.

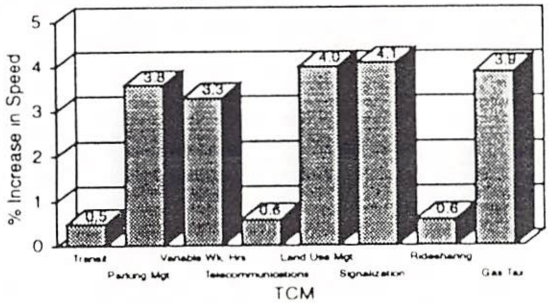


Figure 11 The Effect of Individual TCMs On Speed During the Off-Peak Period.

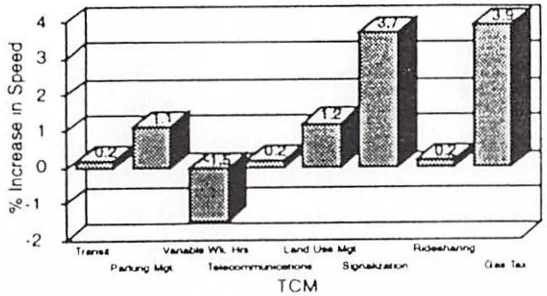


Figure 12 **Summary of Daily Motor Vehicle HC Emission Reductions From Individual TCMs.**

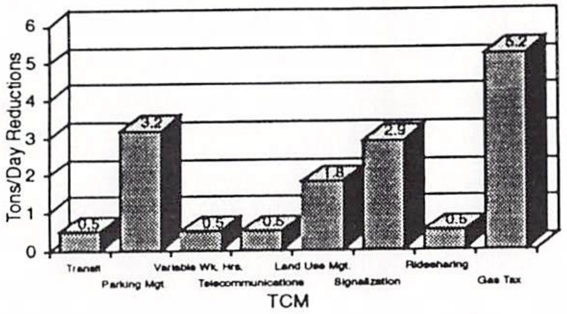


Figure 13 **Summary of Daily Motor Vehicle NOx Emission Reductions From Individual TCMs.**

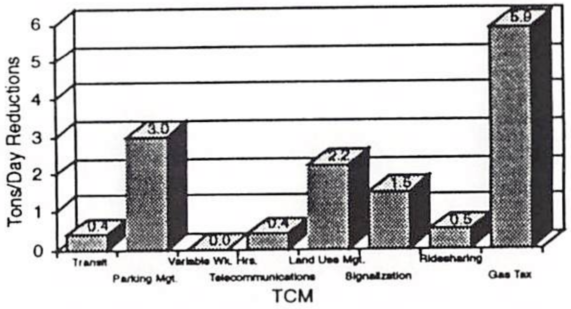
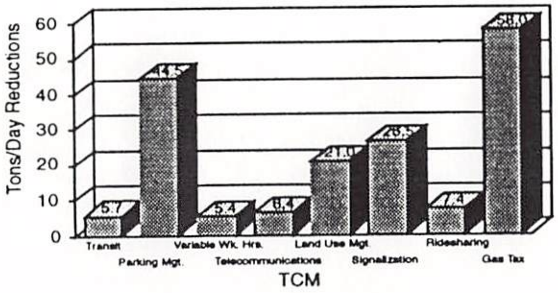


Figure 14 **Summary of Daily Motor Vehicle CO Emission Reductions From Individual TCMs.**



Because *signalization* has a greater impact on speed, it results in a greater emissions reduction than does variable work hours. The relative difference between these two measures varies depending upon the pollutant.

TCM EVALUATION GUIDELINES

In this section, guidelines are described that have been developed based on experience in evaluating TCM impacts. For ease of reference, the guidelines are numbered, and a brief description of the need for the guideline is provided.

1. *Differentiate Between Commute and HBW Trips*

Employer-based TCMs are targeted to all commute trips made by employees to and from the worksite, regardless of whether the employee made an intermediate stop between home and work. Most travel demand forecasting models identify as home-based-work (HBW) trips only those trips that are made directly from home to work. Each portion of a trip that does have an intermediate stop, such as at the grocery store or child care, would be assigned the trip purposed home-based-other and work-based-other (or just other, depending on the number of trip purposes in the model). It would be inaccurate to assume that an employer-based TCM did not affect the commute trips that included a stop. While it may be more difficult to influence a person who is making an intermediate stop, reported experiences based on employee survey data reflect the impacts on all commute trips, not just HBW trips.

2. *Check the Definition of the Peak Period*

Some of the TCM analysis tools differentiate impacts during the peak and off-peak periods. The definition of the peak period within the evaluation of TCM impacts should therefore be consistent with the definition used in developing the input data (which is likely to be from a regional or local travel model). Also, any comparison of impacts between different areas may be affected by differing peak-period definitions.

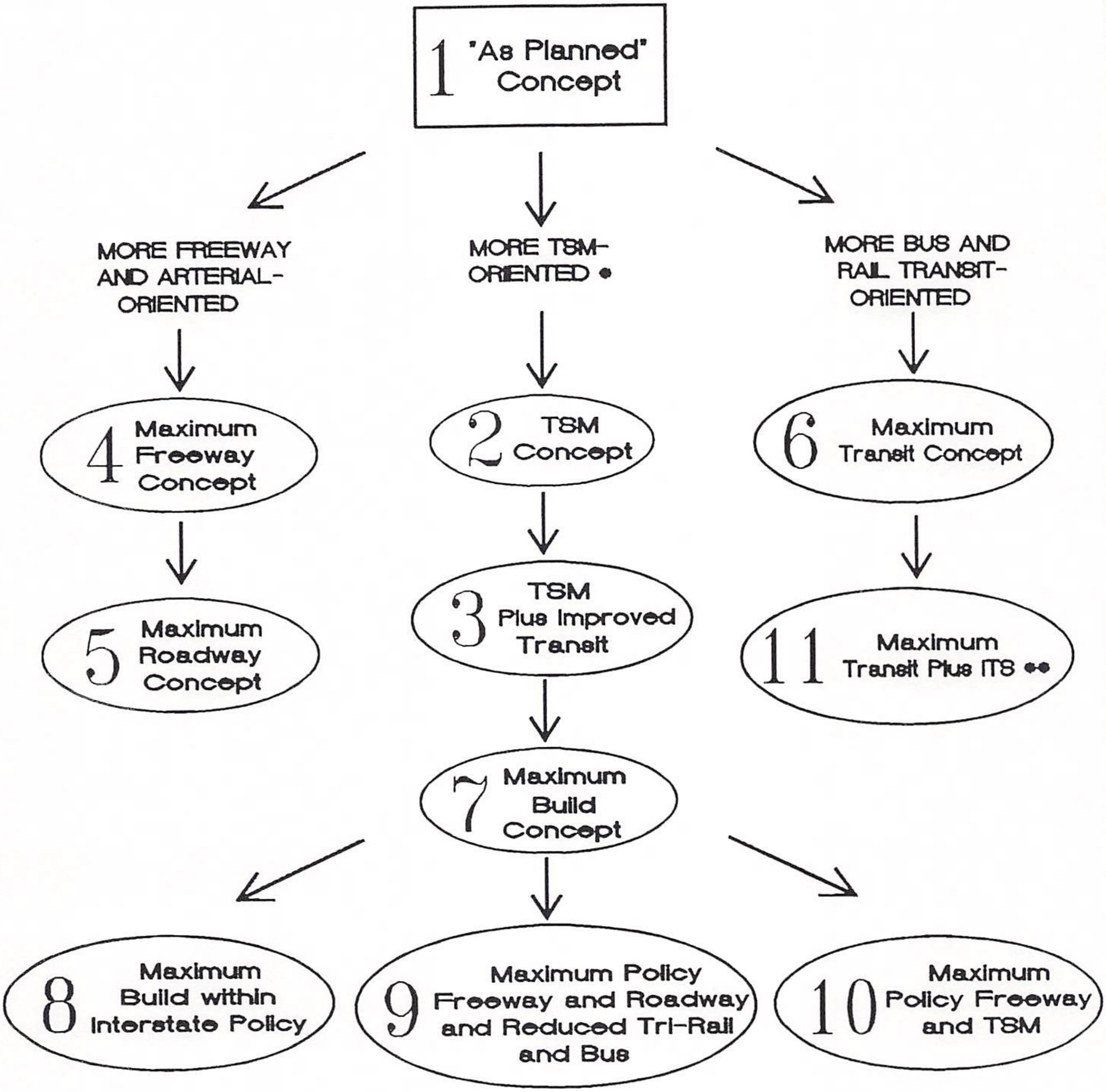
3. *Identify Level of TCM Implementation Already Assumed in Baseline Input Data*

Much of the input data used for the TCM analysis are likely to come from another modeling system, such as a regional travel model. In developing travel demand forecasts, TCMs are often included as part of the transportation system. If this has occurred, and the TCM analysis being performed is for TCM implementation over and above that assumed in the travel demand forecast, then the input data do not need to be revised. But, if the TCM impact that is being tested has already been included in the travel demand forecast, then this information needs to be "backed out" of the input data before the data are used in TCM analysis. If this is not done, the TCM impacts will be double counted.

Appendix B-2:

OFF-MODEL ADJUSTMENTS FOR NO_X EMISSION
I-95/I-595 Multimodal Master Plan
Tier 1 CMEAs

TIER 1 CONCEPTUAL MOBILITY ENHANCEMENT ALTERNATIVES (CMEAs)


1 "As Planned" Concept
MORE FREEWAY AND ARTERIAL-ORIENTED
MORE TSM-ORIENTED *
MORE BUS AND RAIL TRANSIT-ORIENTED
4 Maximum Freeway Concept
2 TSM Concept
6 Maximum Transit Concept
5 Maximum Roadway Concept
3 TSM Plus Improved Transit
11 Maximum Transit Plus ITS **
7 Maximum Build Concept
8 Maximum Build within Interstate Policy
9 Maximum Policy Freeway and Roadway and Reduced Tri-Rail and Bus
10 Maximum Policy Freeway and TSM

* Transportation Systems Management Improvements (Low Capital Cost)
** Intelligent Transportation System Improvements

I-95/I-595 MULTIMODAL TRANSPORTATION CORRIDOR MASTER PLAN STUDY

DESCRIPTION OF THE CMEA CONCEPTS

CMEA 1 - "As Planned" Concept -This CMEA represents a conservative projection of the transportation improvements of all types that are reasonably expected to be in place by the Year 2020. This CMEA includes elements such as freeway projects, new or modified interchanges, arterial road widenings or extensions, and traffic operational improvements. It also includes modest enhancements to Tri-Rail and the local bus transit systems. This CMEA is based on the MPOs' Long-Range Transportation Plans and FDOT's Work Program. All other CMEAs will be compared to the As Planned Concept to judge the usefulness and effectiveness of the other options.

CMEA 2 - The Transportation System Management (TSM) Concept - This CMEA involves relatively low cost investments in a range of transportation improvements that focuses on better use of the existing road and transit networks. This CMEA also includes the use of computer and communications technology for "Intelligent Transportation Systems" (ITS) that provide better information to drivers and transit users about travel conditions to aid in making commuting decisions. This option does not include costly road and transit improvements, but focuses on the operational aspects of making the system work more efficiently using techniques such as ramp metering, intersection improvements, truck restrictions during rush hours, and traffic signal system improvements.

CMEA 3 - The TSM Plus Improved Transit Concept - This CMEA focuses on using low cost roadway and TSM improvements described in CMEA 2 and combines a substantial increase in bus services and facilities. This CMEA improves the number and frequency of buses serving the area, reduces the waiting time for buses, and increases the amount of available parking at Tri-Rail stations. This CMEA attempts to put bus transit improvements in place to give more travellers a convenient and dependable option to single-occupant travel by auto in the study corridors.

CMEA 4 - The Maximum Freeway Concept - This CMEA is oriented toward making major investments in interstate highway widenings and interchange modifications to serve the travel needs in the corridors. This CMEA involves constructing new highway lanes on I-95 and I-595, new interchanges, high occupancy vehicle (HOV) and express lanes for long-distance trips, and new park and ride lots near the freeways to encourage more use of the HOV lanes. This CMEA will be very costly due to the need to acquire right-of-way (land) for the expansion of the freeways as well as the costs of constructing major new freeways and supporting facilities, but will include improvements to support carpooling, vanpooling and bus services in the HOV lanes.

CMEA 5 - The Maximum Roadway Concept - Rather than focussing on interstate widenings, new and modified interstate interchanges, and HOV facilities, CMEA 5 is oriented toward improving parallel arterial roads that could serve short trips now using I-95 and I-595. This CMEA would involve widening and extending streets and closing "missing gaps" in the roadway network near the study corridors to better serve travel needs. This CMEA also includes innovative strategies to increase accessibility to the Florida Turnpike by creating new roadway connections and new interchanges. HOV lanes and express bus services on the Florida Turnpike would also be proposed as well as pricing strategies to better balance the travel demand with the supply of roadway capacity.

CMEA 6 - The Maximum Transit Concept - This CMEA focusses primarily on making large investments in both Tri-Rail and the local bus transit services to make public transportation much more convenient and accessible. This CMEA represents a major public policy and attitudinal shift by travellers to use bus and rail services to a much larger degree than the present time. This CMEA does not propose significant improvements to the freeways and arterial roads. It does include techniques such as preferential bus lanes on arterials and queue jumpers (to allow buses to avoid congested areas) to make public transit more competitive in terms of travel time savings for commuters. This CMEA also proposes rail service in the vicinity of the I-595 corridor.

CMEA 7 - The Maximum Build Plus Maximum Transit Plus High Speed Rail Concept - This CMEA combines all of the improvements described in CMEAs 2, 3, 5, 6, and accommodation for High Speed Rail in the South Florida Rail Corridor. This CMEA will be the costliest of all the options since it represents making all of the transportation improvements of all types (freeway, arterial, traffic operations, ITS, Tri-Rail, and local bus system improvements) that are necessary to meet the travel needs in the study corridors. The likelihood of being able to finance this option is remote, but this CMEA is necessary for comparing the effectiveness of the financially feasible options.

CMEA 8 - The Maximum Build within FDOT Interstate Policy Concept - This CMEA limits the number of freeway lanes to 10 lanes, including up to four HOV/express lanes under FDOT's current Interstate Highway Policy. The other elements proposed under CMEA 7 are the same for this option.

CMEA 9 - The Maximum Policy Freeway with Tri-Rail double-tracking, Improved Bus Transit and Maximum Arterials Concept - This CMEA constrains the freeway laneage to 10 lanes, including four HOV/express lanes under FDOT's current Interstate Highway Policy, and includes a significant amount of arterial road improvements that are not included in CMEA 8. This CMEA also scales down the investment in Tri-Rail and the local bus transit systems compared to CMEA 7.

CMEA 10 - The Maximum Policy Freeway with Tri-Rail double-tracking, Improved Bus Transit and Low Cost Arterial Improvements Concept - This CMEA is identical to CMEA 9, except that instead of costly arterial widenings, extensions, and gap closures, only low cost TSM-type improvements are proposed for arterial roads.

CMEA 11 - The Maximum Transit Plus Intelligent Transportation System (ITS) Concept - This CMEA is very similar to the Maximum Transit CMEA 6, except that it substitutes light rail service in place of commuter rail service in the South Florida Rail Corridor. This proposal is being tested to see if more rail stations and closer station spacing associated with light rail service can attract more transit users than the commuter rail operating characteristics (fewer stations and stations spaced greater distances apart).

Appendix B-3:

OFF-MODEL ADJUSTMENTS FOR NO_X EMISSION
I-95/I-595 Multimodal Master Plan
Existing and Future Baseline Conditions Analyses

Table 16

INTERSTATE 95

Future Year 2020 Capacity Analysis

Palm Beach and Broward Counties

I - 95 Segments				2020 B Model Volume		2020 B Adjusted Volume		2020 MPO volume per direction	No of Lanes per Direction		2020 DOT Cap		2020 LOSD Cap		2020 LOS E Cap		2020 adjusted vol / DOTcap		2020 adjusted vol /LOS D cap		2020 adjusted vol /LOS E cap	
No	Interchange	No	Interchange	North	South	North	South		North	South	North	South	North	South	North	South	North	South	North	South	North	South
57	PGA Blvd	56	Northlake Blvd	87,652	85,564	91,681	87,665		4	4	74,600	74,600	79,550	79,550	89,400	89,400	1.23	1.18	1.15	1.10	1.03	0.98
56	Northlake Blvd	55	Blue Heron Blvd	87,479	85,605	109,572	105,010		4	4	74,600	74,600	79,550	79,550	89,400	89,400	1.47	1.41	1.38	1.32	1.23	1.17
55	Blue Heron Blvd	54	45 th St	85,238	84,759	110,699	105,949		4	4	74,600	74,600	79,550	79,550	89,400	89,400	1.48	1.42	1.39	1.33	1.24	1.19
54	45 th St	53	Palm Beach Lk Blvd	86,592	86,647	115,456	112,529		4	4	74,600	74,600	79,550	79,550	89,400	89,400	1.55	1.51	1.45	1.41	1.29	1.26
53	Palm Beach Lk Bl	52	Okeechobee Rd	79,458	77,902	108,434	104,572		4	4	74,600	74,600	79,550	79,550	89,400	89,400	1.45	1.40	1.36	1.31	1.21	1.17
52	Okeechobee Rd	2020	Palm Beach Airport	94,147	88,857	128,968	120,077		4	4	74,600	74,600	79,550	79,550	89,400	89,400	1.73	1.61	1.62	1.51	1.44	1.34
2020	Palm Beach Airpo	51	Belvedere Rd	81,966	78,842	131,449	128,364		4	4	74,600	74,600	79,550	79,550	89,400	89,400	1.76	1.69	1.65	1.59	1.47	1.41
51	Belvedere Rd	2020	Austarlian Dr	96,935	90,995	140,486	129,993		4	4	74,600	74,600	79,550	79,550	89,400	89,400	1.88	1.74	1.77	1.63	1.57	1.45
2020	Austarlian Dr	50	Southern Blvd	101,529	96,023	146,547	137,963		5	4	92,650	74,600	99,400	79,550	111,750	89,400	1.58	1.85	1.47	1.73	1.31	1.54
50	Southern Blvd	49	Forrest Hill Blvd	104,715	104,727	137,247	133,971		5	5	92,650	92,650	99,400	99,400	111,750	111,750	1.48	1.45	1.38	1.35	1.23	1.20
49	Forrest Hill Blvd	48	10 th Ave	100,667	99,646	140,188	137,169		5	5	92,650	92,650	99,400	99,400	111,750	111,750	1.51	1.48	1.41	1.38	1.25	1.23
48	10 th Ave	2020	Lakeworth Rd	98,795	97,649	133,507	130,199		5	5	92,650	92,650	99,400	99,400	111,750	111,750	1.44	1.41	1.34	1.31	1.19	1.17
2020	Lakeworth Rd	47	S 6 th Ave	100,421	99,370	134,081	131,290		5	5	92,650	92,650	99,400	99,400	111,750	111,750	1.45	1.42	1.35	1.32	1.20	1.17
47	S 6 th Ave	46	Lantana Rd	100,233	98,946	118,263	115,649		5	5	92,650	92,650	99,400	99,400	111,750	111,750	1.28	1.25	1.19	1.16	1.06	1.03
46	Lantana Rd	45	Hypoluxo Rd	91,327	89,792	109,357	106,665		5	5	92,650	92,650	99,400	99,400	111,750	111,750	1.18	1.15	1.10	1.07	0.98	0.95
45	Hypoluxo Rd	44	Boyton Beach Blvd	88,720	87,505	125,501	122,597		5	5	92,650	92,650	99,400	99,400	111,750	111,750	1.35	1.32	1.26	1.23	1.12	1.10
44	Boyton Beach Blv	43	Woolbright Rd	86,758	82,256	117,563	112,483		5	5	92,650	92,650	99,400	99,400	111,750	111,750	1.27	1.21	1.18	1.13	1.05	1.01
43	Woolbright Rd	42	Atlantic Ave	77,671	77,370	115,878	114,075		5	5	92,650	92,650	99,400	99,400	111,750	111,750	1.25	1.23	1.17	1.15	1.04	1.02
42	Atlantic Ave	41	Linton Blvd	82,526	80,958	116,735	113,807		5	5	92,650	92,650	99,400	99,400	111,750	111,750	1.26	1.23	1.17	1.14	1.04	1.02
41	Linton Blvd	2020	Congress	66,927	75,853	99,891	113,213		5	5	92,650	92,650	99,400	99,400	111,750	111,750	1.08	1.22	1.00	1.14	0.89	1.01
2020	Congress	40	Yamato Rd	79,920	80,072	126,585	125,839		5	5	92,650	92,650	99,400	99,400	111,750	111,750	1.37	1.36	1.27	1.27	1.13	1.13
40	Yamato Rd	39	Glades Rd	80,616	79,995	116,835	115,935		5	5	92,650	92,650	99,400	99,400	111,750	111,750	1.26	1.25	1.18	1.17	1.05	1.04
39	Glades Rd	38	Palmetto Park	85,176	85,237	115,103	115,185		5	5	92,650	92,650	99,400	99,400	111,750	111,750	1.24	1.24	1.16	1.16	1.03	1.03
38	Palmetto Park	37	Hilsboro Blvd	88,430	88,507	106,590	110,164		4	4	74,600	74,600	79,550	79,550	89,400	89,400	1.43	1.48	1.34	1.38	1.19	1.23
37	Hilsboro Blvd	36 C	SW 10 th St	84,589	83,189	98,398	94,564		4	4	74,600	74,600	79,550	79,550	89,400	89,400	1.32	1.27	1.24	1.19	1.10	1.06
36 C	SW 10 th St	36	Sample Rd	83,572	84,525	88,906	88,974	118,585	4	4	74,600	74,600	79,550	79,550	89,400	89,400	1.19	1.19	1.12	1.12	0.99	1.00
36	Sample Rd	35	Copans Rd	81,821	78,570	92,746	89,393	118,586	4	4	74,600	74,600	79,550	79,550	89,400	89,400	1.24	1.20	1.17	1.12	1.04	1.00
35	Copans Rd	34	Atlantic Blvd	81,298	82,843	94,726	97,930	104,825	4	4	74,600	74,600	79,550	79,550	89,400	89,400	1.27	1.31	1.19	1.23	1.06	1.10
34	Atlantic Blvd	33	Cypress Creek Rd	89,453	88,450	101,651	99,382	102,138	5	5	92,650	92,650	99,400	99,400	111,750	111,750	1.10	1.07	1.02	1.00	0.91	0.89
33	Cypress Creek R	32	Commercial Blvd	91,199	92,955	100,219	99,952	102,132	5	5	92,650	92,650	99,400	99,400	111,750	111,750	1.08	1.08	1.01	1.01	0.90	0.89
32	Commercial Blvd	31	Oakland Park Blvd	99,911	99,305	105,905	103,444	131,383	5	5	92,650	92,650	99,400	99,400	111,750	111,750	1.14	1.12	1.07	1.04	0.95	0.93
31	Oakland Park Blv	30	Sunrise Blvd	100,789	100,235	107,147	98,379	134,257	5	5	92,650	92,650	99,400	99,400	111,750	111,750	1.16	1.06	1.08	0.99	0.96	0.88
30	Sunrise Blvd	29	Broward Blvd	112,542	110,535	111,345	112,169	148,032	5	5	92,650	92,650	99,400	99,400	111,750	111,750	1.20	1.21	1.12	1.13	1.00	1.00
29	Broward Blvd	28	Davie Blvd	116,103	110,956	113,675	100,151	148,033	5	5	92,650	92,650	99,400	99,400	111,750	111,750	1.23	1.08	1.14	1.01	1.02	0.90
28	Davie Blvd	27	SW 24th St	117,919	113,664	115,676	103,242	148,034	5	5	92,650	92,650	99,400	99,400	111,750	111,750	1.25	1.11	1.16	1.04	1.04	0.92
27	SW 24th St	26 A	Int. 595	95,733	101,525	104,058	99,534	148,035	5	5	92,650	92,650	99,400	99,400	111,750	111,750	1.12	1.07	1.05	1.00	0.93	0.89
26 A	Int. 595	26	Griffin Rd	133,445	137,613	117,412	117,843	148,036	5	5	92,650	92,650	99,400	99,400	111,750	111,750	1.27	1.27	1.18	1.19	1.05	1.05
26	Griffin Rd	25	Stirling Rd	140,488	137,686	121,581	117,905	177,599	5	5	92,650	92,650	99,400	99,400	111,750	111,750	1.31	1.27	1.22	1.19	1.09	1.06
25	Stirling Rd	24	Sheridan St	125,545	127,352	113,044	115,859	164,697	5	5	92,650	92,650	99,400	99,400	111,750	111,750	1.22	1.25	1.14	1.17	1.01	1.04
24	Sheridan St	23	Hollywood Blvd	113,760	116,119	110,319	112,106	150,853	5	5	92,650	92,650	99,400	99,400	111,750	111,750	1.19	1.21	1.11	1.13	0.99	1.00
23	Hollywood Blvd	22	Pembroke Rd	113,101	114,946	112,290	109,487	134,882	5	5	92,650	92,650	99,400	99,400	111,750	111,750	1.21	1.18	1.13	1.10	1.00	0.98
22	Pembroke Rd	21	Hallandale Beach Rd	112,319	112,766	106,759	106,355	125,858	5	5	92,650	92,650	99,400	99,400	111,750	111,750	1.15	1.15	1.07	1.07	0.96	0.95

▨ Data adjusted from 2010 to 2020 by an annual growth factor of 3%

INTERSTATE 95

Alternative Solutions

Palm Beach and Broward Counties

I - 95 Segments				2020 DOT (volume-capacity)		2020 LOS D (volume-capacity)		2020 LOS E (volume-capacity)		DOT Passenger Trip (vol-cap)*1.4		LOS D Passenger Trip (vol-cap)*1.4		LOS E Passenger Trip (vol-cap)*1.4		DOT No of buses		LOS D No of buses		LOS E No of buses		DOT No of trains		LOS D No of trains		LOS E No of trains		Dual tracks DOT No of trains		Dual tracks LOS D No of trains		Dual tracks LOS E No of trains		DOT No of lanes		LOS D No of lanes		LOS E No of lanes	
																		[1]						[2]						[3]				[4]		[5]		[6]	
No	Interchange	No	Interchange	North	South	North	South	North	South	North	South	North	South	North	South	North	South	North	South	North	South	North	South	North	South	North	South	North	South	North	South	North	South	North	South	North	South	North	South
57	PGA Blvd	56	Northlake Blvd	17,081	13,065	12,131	8,115	2,281	OK	23,913	18,291	16,983	11,381	3,193	0	435	333	309	207	58	0	28	22	20	14	4	0	20	15	14	9	3	0	1	1	1	0	0	0
56	Northlake Blvd	55	Blue Heron Blvd	34,972	30,410	30,022	25,460	20,172	15,610	48,961	42,575	42,031	35,645	28,241	21,855	890	774	764	648	513	397	58	51	50	42	34	26	41	35	35	30	24	18	2	2	1	1	1	1
55	Blue Heron Blvd	54	45 th St	38,099	31,349	31,149	26,399	21,299	16,549	50,538	43,888	43,608	36,958	29,818	23,168	919	798	793	672	542	421	60	52	52	44	35	28	42	37	36	31	25	19	2	2	1	1	1	1
54	45 th St	53	Palm Beach Lk Blvd	40,856	37,929	35,906	32,979	26,056	23,129	57,198	53,100	50,268	46,170	36,478	32,380	1,040	965	914	839	663	589	68	63	60	55	43	39	48	44	42	38	30	27	2	2	2	2	1	1
53	Palm Beach Lk Blvd	52	Okeechobee Rd	33,834	29,972	28,884	25,022	19,034	15,172	47,388	41,961	40,438	35,031	26,648	21,241	861	763	735	637	485	386	56	50	48	42	32	25	39	35	34	29	22	18	2	2	1	1	1	1
52	Okeechobee Rd	2020	Palm Beach Airport	54,368	45,477	49,418	40,527	39,568	30,677	76,116	63,668	69,186	56,738	55,396	42,948	1,384	1,158	1,258	1,032	1,007	781	91	76	82	68	66	51	63	53	58	47	46	36	3	2	2	2	2	1
2020	Palm Beach Airport	51	Belvedere Rd	56,849	51,764	51,899	46,814	42,049	36,964	79,589	72,470	72,659	65,540	58,869	51,750	1,447	1,318	1,321	1,192	1,070	941	95	86	86	78	70	62	66	60	61	55	49	43	3	3	2	2	2	2
51	Belvedere Rd	2020	Australian Dr	65,886	55,393	60,936	50,443	51,086	40,593	92,240	77,550	85,310	70,620	71,520	56,830	1,677	1,410	1,551	1,284	1,300	1,033	110	92	102	84	85	68	77	65	71	59	60	47	4	3	3	2	2	2
2020	Australian Dr	50	Southern Blvd	53,897	63,363	47,147	58,413	34,797	48,563	75,456	88,708	66,006	81,778	48,716	67,988	1,372	1,613	1,200	1,487	886	1,236	90	106	79	97	58	81	63	74	55	68	41	57	3	3	2	3	1	2
50	Southern Blvd	49	Forrest Hill Blvd	44,597	41,321	37,847	34,571	25,497	22,221	62,436	57,850	52,986	48,400	35,696	31,110	1,135	1,052	963	880	649	566	74	69	63	58	42	37	52	48	44	40	30	26	2	2	2	2	1	1
49	Forrest Hill Blvd	48	10 th Ave	47,538	44,519	40,788	37,769	28,438	25,419	66,554	62,327	57,104	52,877	39,814	35,587	1,210	1,133	1,038	961	724	647	79	74	68	63	47	42	55	52	48	44	33	30	3	2	2	2	1	1
48	10 th Ave	2020	Lakeworth Rd	40,857	37,549	34,107	30,799	21,757	18,449	57,199	52,568	47,749	43,118	30,459	25,828	1,040	956	868	784	554	470	68	63	57	51	36	31	48	44	40	36	25	22	2	2	2	1	1	1
2020	Lakeworth Rd	47	S 6 th Ave	41,431	38,640	34,681	31,890	22,331	19,540	58,004	54,096	48,554	44,646	31,264	27,356	1,055	984	883	812	568	497	69	64	58	53	37	33	48	45	40	37	26	23	2	2	2	1	1	1
47	S 6 th Ave	46	Lantana Rd	25,613	22,999	18,863	16,249	6,513	3,899	35,858	32,198	26,408	22,748	9,118	5,458	652	585	480	414	166	99	43	38	31	27	11	6	30	27	22	19	8	5	1	1	1	1	0	0
46	Lantana Rd	45	Hypoluxo Rd	16,707	14,015	9,957	7,265	OK	OK	23,389	19,620	13,939	10,170	0	0	425	357	253	185	0	0	28	23	17	12	0	0	19	16	12	8	0	0	1	1	0	0	0	0
45	Hypoluxo Rd	44	Boyton Beach Blvd	32,851	29,947	26,101	23,197	13,751	10,847	45,992	41,925	36,542	32,475	19,252	15,185	836	762	664	590	350	276	55	50	44	39	23	18	38	35	30	27	16	13	2	2	1	1	1	0
44	Boyton Beach Blvd	43	Woolbright Rd	24,913	19,833	18,163	13,083	5,813	733	34,878	27,766	25,428	18,316	8,138	1,026	634	505	462	333	148	19	42	33	30	22	10	1	29	23	21	15	7	1	1	1	1	1	0	0
43	Woolbright Rd	42	Atlantic Ave	23,228	21,425	16,478	14,675	4,128	2,325	32,519	29,994	23,069	20,544	5,779	3,254	591	545	419	374	105	59	39	36	27	24	7	4	27	25	19	17	5	3	1	1	1	1	0	0
42	Atlantic Ave	41	Linton Blvd	24,085	21,157	17,335	14,407	4,985	2,057	33,719	29,620	24,269	20,170	6,979	2,880	613	539	441	367	127	52	40	35	29	24	8	3	28	25	20	17	6	2	1	1	1	1	0	0
41	Linton Blvd	2020	Congress	7,241	20,563	491	13,813	OK	1,463	10,137	28,789	687	19,339	0	2,049	184	523	12	352	0	37	12	34	1	23	0	2	8	24	1	16	0	2	0	1	0	1	0	0
2020	Congress	40	Yamato Rd	33,935	33,189	27,185	26,439	14,835	14,089	47,509	46,465	38,059	37,015	20,769	19,725	864	845	692	673	378	359	57	55	45	44	25	23	40	39	32	31	17	16	2	2	1	1	1	1
40	Yamato Rd	39	Glades Rd	24,185	23,285	17,435	16,535	5,085	4,185	33,859	32,599	24,409	23,149	7,119	5,859	616	593	444	421	129	107	40	39	29	28	8	7	28	27	20	19	6	5	1	1	1	1	0	0
39	Glades Rd	38	Palmetto Park	22,453	22,535	15,703	15,785	3,353	3,435	31,434	31,549	21,984	22,099	4,694	4,809	572	574	400	402	85	87	37	38	26	26	6	6	26	26	18	18	4	4	1	1	1	1	0	0
38	Palmetto Park	37	Hilsboro Blvd	31,990	35,564	27,040	30,614	17,190	20,764	44,786	49,789	37,856	42,859	24,066	29,069	814	905	688	779	438	529	53	59	45	51	29	35	37	41	32	36	20	24	2	2	1	1	1	1
37	Hilsboro Blvd	36 C	SW 10 th St	23,798	19,964	18,848	15,014	8,998	5,164	33,317	27,949	26,387	21,019	12,597	7,229	606	508	480	382	229	131	40	33	31	25	15	9	28	23	22	18	10	6	1	1	1	1	0	0
36 C	SW 10 th St	36	Sample Rd	14,306	14,374	9,356	9,424	OK	OK	20,029	20,123	13,099	13,193	0	0	364	366	238	240	0	0	24	24	16	16	0	0	17	17	11	11	0	0	1	1	0	0	0	0
36	Sample Rd	35	Copans Rd	18,146	14,793	13,196	9,843	3,346	OK	25,404	20,710	18,474	13,780	4,684	0	462	377	336	251	85	0	30	25	22	16	6	0	21	17	15	11	4	0	1	1	1	0	0	0
35	Copans Rd	34	Atlantic Blvd	20,126	23,330	15,176	18,380	5,326	8,530	28,177	32,662	21,247	25,732	7,457	11,942	512	594	386	468	136	217	34	39	25	31	9	14	23	27	18	21	6	10	1	1	1	1	0	0
34	Atlantic Blvd	33	Cypress Creek Rd	9,001	6,732	2,251	OK	OK	OK	12,602	9,425	3,152	0	0	0	229	171	57	0	0	0	15	11	4	0	0	0	11	8	3	0	0	0	0	0	0	0	0	0
33	Cypress Creek Rd	32	Commercial Blvd	7,569	7,302	819	552	OK	OK	10,596	10,222	1,146	772	0	0	193	186	21	14	0	0	13	12	1	1	0	0	9	9	1	1	0	0	0	0	0	0	0	0
32	Commercial Blvd	31	Oakland Park Blvd	13,255	10,794	6,505	4,044	OK	OK	18,557	15,112	9,107	5,662	0	0	337	275	166	103	0	0	22	18	11	7	0	0	15	13	8	5	0	0	1	1	0	0	0	0
31	Oakland Park Blvd	30	Sunrise Blvd	14,497	5,729	7,747	OK	OK	OK	20,296	8,021	10,846	0	0	0	369	146	197	0	0	0	24	10	13	0	0	0	17	7	9	0	0	0	1	0	0	0	0	0
30	Sunrise Blvd	29	Broward Blvd	18,695	19,519	11,945	12,769	OK	419	26,173	27,326	16,723	17,876	0	586	476	497	304	325	0	11	31	33	20	21	0	1	22	23	14	15	0	0	1	1	1	1	0	0
29	Broward Blvd	28	Davie Blvd	21,025	7,501	14,275	751	1,925	OK	29,435	10,501	19,985	1,051	2,695	0	535	191	363	19	49	0	35	13	24	1	3	0	25	9	17	1	2	0	1	0	1	0	0	0
28	Davie Blvd	27	SW 24th St	23,026	10,592	16,276	3,842	3,926	OK	32,237	14,829	22,787	5,379	5,497	0	586	270	414	98	100	0	38	18	27	6	7	0	27	12	19	4	5	0	1	1	1	0	0	0
27	SW 24th St	26 A	Int 595	11,408	6,884	4,658	134	OK	OK	15,971	9,638	6,521	188	0	0	290	175	119	3	0	0	19	11	8	0	0	0	13	8	5	0	0	0	1	0	0	0	0	0
26 A	Int 595	26	Griffin Rd	24,762	25,193	18,012	18,443	5,662	6,093	34,666	35,271	25,216	25,821	7,926	8,531	630	641	458	469	144	155	41	42	30	31	9	10	29	29	21	22	7	7	1	1	1	1	0	0
26	Griffin Rd	25	Stirling Rd	28,931	25,255	22,181	18,505	9,831	6,155	40,503	35,356	31,053	25,906	13,763	8,616	736	643	565	471	250	157	48	42	37	31	16	10	34	29	26	22	11	7	2	1	1	1	0	0
25	Stirling Rd	24	Sheridan St	20,394	23,209	13,644	16,459	1,294	4,109	28,552	32,492	19,102	23,042	1,812	5,752	519	591	347	419	33	105	34	39	23	27	2	7	24	27	18	19	2	5	1	1	1	1	0	0
24	Sheridan St	23	Hollywood Blvd	17,669	19,456	10,919	12,706	OK	356	24,736	27,239	15,286	17,789	0	499	450	495	278	323	0	9	29	32	18	21	0	1	21	23	13	15	0	0	1	1	1	1	0	0
23	Hollywood Blvd	22	Pembroke Rd	19,640	16,837	12,890	10,087	540	OK	27,496	23,572	18,046	14,122	756	0	500	429	328	257	14	0	33	28	21	17	1	0	23	20	15	12	1	0	1	1	1	0	0	0
22	Pembroke Rd	21	Hallandale Beach Rd	14,109	13,705	7,359	6,955	OK	OK	19,752	19,186	10,302	9,736	0	0	359	349	187	177	0	0	24	23	12	12	0	0	16	16	9	8	0	0	1	1	0	0	0	0

Notes

OK When volume is less than capacity

[1] bus capacity 55 passengers

[2] Single track train capacity 600

[3] Double tracks train capcity 1200

[4] DOT lane capacity 18530 vpd

[5] LOS D lane capacity 19880 vpd

[6] LOS E lane capcity 22350 vpd

Appendix B-4:

OFF-MODEL ADJUSTMENTS FOR NO_X EMISSION
I-95 VMT Calculation

FROM INTERCHANGE	TO INTERCHANGE	DISTANCE (MILES)	VEHICLES (PER DAY)	VMT (MI/DAY)
Palm Beach/Martin Co. Line	Indiantown Road	1.98	100,000	198,000
Indiantown Road	Donald Ross Road	4.00	112,935	451,740
Donald Ross Road	Central Boulevard	1.97	126,484	249,173
Central Boulevard	Military Trail	1.25	159,868	199,835
Military Trail	PGA Boulevard	0.55	148,243	81,534
PGA Boulevard	North Lake Boulevard	1.64	172,426	282,779
North Lake Boulevard	Blue Heron Bouelvard	1.78	188,604	335,715
Blue Heron Bouelvard	45th Street	1.75	195,569	342,246
45th Street	Palm Beach Lakes Boulevard	2.79	201,213	561,384
Palm Beach Lakes Boulevard	Okeechobee Boulevard	1.46	200,049	292,072
Okeechobee Boulevard	Belvedere Road	1.35	203,539	274,778
Belvedere Road	Southern Boulevard	0.88	180,851	159,149
Southern Boulevard	Forest Hill Road	1.47	249,252	366,400
Forest Hill Road	10th Avenue	1.90	243,139	461,964
10th Avenue	Melaleuca Lane	1.31	238,504	312,440
Melaleuca Lane	Lantana Road	1.51	238,076	359,495
Lantana Road	Hypoloxo Road	1.05	230,034	241,536
Hypoloxo Road	Gateway Boulevard	1.51	218,294	329,624
Gateway Boulevard	Boynton Beach Boulevard	1.53	208,853	319,545
Boynton Beach Boulevard	Woolbright Road	1.00	199,327	199,327
Woolbright Road	Atlantic Avenue	3.82	193,158	737,864
Atlantic Avenue	Linton Boulevard	1.54	186,535	287,264
Linton Boulevard	82nd St SW	1.09	167,114	182,154
82nd St SW	Yamato Road	2.11	173,825	366,771
Yamato Road	Glades Road	2.44	174,854	426,644
Glades Road	Palmetto Park Road	1.27	185,834	236,009
Palmetto Park Road	Palm Beach/Broward Co. Line	1.47	214,462	315,259
TOTAL		46.42	5,111,042	8,570,700

Appendix B-5:

OFF-MODEL ADJUSTMENTS FOR NO_X EMISSION
I-95/I-595 Multimodal Master Plan
CMEA Evaluation Criteria

EVALUATION FRAMEWORK FOR CMEA ALTERNATIVES

GOALS	OBJECTIVES	CRITERIA	MEASURES
Meet Projected Corridor Needs	• Serve corridor needs for longer-distance trips	• Reduction in travel time	• Percent reduction in corridor travel time for trips longer than five miles
	• Provide adequate quality of service in the corridors	• Roadway level of service (on freeway general use lanes, HOV lanes, and interchanges) and transit load factor	• Percent of segments with unacceptable LOS or transit load factor
	• Increase corridor capacities	• Estimated continuous corridor capacity at critical screen-lines	• Peak hour person-trip capacity at defined screen-lines (autos @ target AVO and transit at 1.0 load factor)
	• Minimize traffic disruption	• Reduce major incidents	• Number of peak hour traffic disrupting incidents
Enhance Corridor Mobility	• Increase choice of travel modes	• Alternate modes of travel availability	• Number of modes available in each defined corridor segment
	• Increase attractiveness of transit	• Make transit travel time more competitive	• Average ratio of auto to transit travel times
	• Improve hurricane evacuation characteristics	• Reduce clearance time for southeast Florida evacuation	• Percent increase in capacity on designated routes
	• Reduce dependence on SOV	• Develop transit supportive Land Use Plans	• Mode Split and Veh. Occupancy

EVALUATION FRAMEWORK FOR CMEA ALTERNATIVES

GOALS	OBJECTIVES	CRITERIA	MEASURES
Maximize Accessibility to Key Activity Centers	• Reduce average travel time to significant trip generators	• Trip length for activity center access	• Average travel time per trip to selected activitygenerators
	• Provide alternate routes to significant trip generators	• Choice of routes for access	• Number of distinct approach routes available to selected activity centers via arterial street or freeway or via Tri-Rail or bus route
	• Improve signing prior to decision points	• Degree to which clear guidance is provided early enough for decision	• Number of design exceptions for signing exit ranges or forced lane changes
Integrate Transportation Systems	• Provide smooth transition between travel modes	• The degree to which intermodal transfers are coordinated	• Number of person-trips passing through intermodal transfer points
Support Planned Land-Use Development and Redevelopment	• Develop CMEAs which are compatible with corridor land-use plans and support	• Consistency of CMEAs with land-use plans	• Qualitative based on compatibility with major land use/development plan proposals
Enhance Socio-economic Conditions	• Minimize residential displacements	• Relocations required	• Number of residential units to be displaced
	• Minimize business displacements	• Relocations required	• Number of business establishments to be displaced
	• Minimize need for right-of-way acquisition	• Land to be acquired	• Acres of additional right-of-way to be acquired

EVALUATION FRAMEWORK FOR CMEA ALTERNATIVES

GOALS	OBJECTIVES	CRITERIA	MEASURES
Minimize Adverse Environmental Impacts	• Minimize adverse noise impacts	• Increase in unacceptable noise levels	• Noise-sensitive areas subjected to noise levels above FHWA/FDOT standards
	• Maintain or improve air quality	• Increase in carbon monoxide, ozone, hydrocarbons, and sulfur dioxide	• Annual tons of CO, O_3, HC, SO_2 emissions
	• Minimize impacts to wetlands	• Wetlands impacted by CMEAs	• Acres of wetland encroachment
	• Avoid impacts on parks, historic, and cultural sites	• Parks, historic and cultural sites impacted by CMEAs	• Number of historic/cultural/park sites impacted
Improve Corridor Safety	• Improve safety characteristics at existing high accident locations	• Conformance with FDOT and FHWA design criteria	• Reduction in annual acccidents
	• Reduce accident potential at improvement locations	• Degree to which CMEAs meet FDOT/FHWA design standards	• Number of design standard exceptions
Maximize Cost Effectiveness of Improvements	• Provide cost-effective CMEAs	• Quality of mobility for invested resources	• Daily PMT at acceptable LOS per $1M capital cost

Appendix B-6:

OFF-MODEL ADJUSTMENTS FOR NO_X EMISSION
Alternative Fuels

HRS
STATE OF FLORIDA
DEPARTMENT OF HEALTH AND REHABILITATIVE SERVICES

December 1, 1995

Randy Whitfield, Executive Director
Metropolitan Planning Organization of Palm Beach County
160 Australian Avenue, Suite 201
West Palm Beach, FL 33406

Re: Conformity Determination, 2015 Long Range Transportation Plan

Dear Mr. Whitfield:

Enclosed you will find a brief history of the Florida Gold Coast Clean Cities Coalition's (FGCCC) efforts to implement alternative fuels programs in the Tri-County Area. I have also highlighted some alternative fuel requirements under the 1992 Energy Policy Act (EPACT) and several applications specific to Palm Beach County. I trust the information will help to provide the necessary documentation and justification for NOX reduction credits that the MPO is seeking from the various reviewing agencies.

1-407-
Please feel free to contact me at 355-3070, if you have any questions.

Sincerely,
For the Division Director
Environmental Health and Engineering

Alfred M Grasso
Alfred M. Grasso, Public Transportation Specialist
Mobile Source Control Program
Air Pollution Control Section

AMG

DISTRICT IX
PALM BEACH COUNTY PUBLIC HEALTH UNIT • P.O. BOX 29 • WEST PALM BEACH, FLORIDA 33402

LAWTON CHILES, GOVERNOR

FLORIDA GOLD COAST CLEAN CITIES COALITION

HISTORY:

- Established in 1993 by Executive Order #93-278, (**ATTCH I**) in accordance with 1992 Energy Policy Act (EPACT) & President's Federal Fleet Conversion Task Force;

- Goal is to get private & public entities to use alternative fuels to reduce foreign oil dependence & improve air quality, & meet Governor's strategic goal of converting 20% of State fleet to alternative fuels by 1996;

- FGCCC Action Plan February 1994 sets goal of 21.5 million gallons fuel displaced by 1996;

- FGCCC officially designated by U.S. Department of Energy as the Ninth "Clean Cities Area" in the Nation on May 5, 1994.

FINANCIAL COMMITMENTS

- Under Executive Order 91-253, 1 million dollars committed to initiate program for fleets in FY 91;

- FY 92, an additional 2 million dollars for alternative fuels proposals from local governments;

- FY 93-94, under Florida's Coordinated Energy Plan, $8,420,000 appropriated for fuel diversification program;

- FY 95-96, 4 million for federal & state fleet conversions, and emissions testing to verify reductions. Private sector has committed to matching 4 million under CCC's Market Development & Legislative Plan, February, 1995 ;

- FY 96-97, 10 million for a revolving loan program, and advanced technology programs;

- Other sources such as CMAQ, EPACT tax incentives, and local legislative actions could provide for long term revenue of 59 million dollars in FY 95-99 (PAGE 9 of MARKET DEVELOPMENT PLAN, **ATTCH II**).

LEGISLATIVE & REGULATORY ACTIVITIES:

Basic efforts by the CCC's Legislative Subcommittee to focus on:

- The release state funds to implement 1995 short term plan in Florida Gold Coast;

- Creation of incentives for vehicle conversions, (RESOLUTION #95-1, **ATTCH III**);

- Establishment of Mobile Emission Reduction Credits;

- Emission testing or license tag registration $2.00 surcharge could generate $6,000,000 annually;

- Waiver of alternative decal fee.

1992 ENERGY POLICY ACT (EPACT) HIGHLIGHTS

- Title III, Section 303, establishes minimum Federal Fleet requirements **(ATTCH IV)**;
- Title IV, Section 410, establishes Non-Federal Alternate Fuel Bus Program with 30 million in funding available nationwide for each year from FY 93-95, > 100,000 population **(ATTCH V)**;
- Title IV, Section 414, establishes low interest program for small businesses, 25 million for each year **(ATTCH VI)**;
- Title V, Section 501, establishes mandates for private alternative fuel providers **(ATTCH VII)**;
- Title V, Section 507, establishes private fleet purchase requirement **(ATTCH VIII)**;
- Mandatory State Fleet Requirements **(ATTCH IX)**.

PBC ALTERNATE FUEL ACCOMPLISHMENTS

- September 1992, PBC Fleet Management Division & PBC Public Health Unit each purchase 2 Compressed Natural Gas (CNG) conversion kits for installation into vehicles;
- January 28, 1993, Donnini Enterprise opens first retail CNG station in State of Florida; agrees to sell fuel to PBC Fleet Management;
- July 1993, PBC Board of County Commissioners approves transfer of $100,000 from "pollution recovery trust fund" into special account for additional alternative fuel vehicle conversions;
- September 1993, PBC awarded $228,000 grant form Florida Energy Office (FEO) for construction of "Quick-Fill" CNG Refueling Station at Palm Beach International Airport. Grant proposal ranked #1 statewide. County matches grant with vehicle conversions, purchases, training and PR ;
- November 1994, PBC receives 2nd grant from FEO for $280,000, to construct a second "Quick-Fill" Station in South County at Delray Beach. County once again matches grant amount. City of Delray Beach, PBC Fire Rescue and Altec Inc., a private fleet operator also commit to alternate fuel vehicle purchases and conversions as partners to grant (technology transfer);
- November 1994, City of Palm Beach Gardens also receives grant of $300,000 from FEO to build a "Quick-Fill" Station in North County at the City's municipal complex. City also commits to math grant award with additional vehicle conversions and purchases ;
- April 19, 1995, PBC's PBIA Station officially dedicated by U.S. Department of Energy **(ATTCH X)**. PBC also receives permission from County Attorney's Office to sell fuel to public in an effort to enhance alternative fuel use ;
- November 1995, PBC's Comprehensive Policy Plan contains alternative fuels commitment under the "Conservation Element, Objective 7, Policy 7. (f) **(ATTCH XI)**;
- November 1995, City of West Palm Beach considers FEO grant for Hydrogen Fuel Cell "Zero Emissions Transporter Vehicle" for downtown area;

Florida Gold Coast Clean Cities Coalition

Members

Chair

- **Suellen H. Fardelmann**
  - Chair, South Florida Regional Planning Council

Dade County

- **Arthur Teele**
  - Chair, Dade County Commission
- **Luis Ajamil**
  - Chair, Transportation Committee
  - Greater Miami Chamber of Commerce
- **Alfred Signore**
  - Director, Public Works/Utilities
  - City of North Miami
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- **Beryl Burke**
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- **Jack Latona**
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- **Michael P. Solomon**
  - Director, Sales Procurement & Development
  - Gray Line
- **James Flood**
  - Director, Broward County Office of General Services
- **Timothy Zerwick**
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  - Chair, Palm Beach County Commission
- **Jeff Koons**
  - Chair, Palm Beach MPO
- **Arthur Anderson**
  - Palm Beach School Board
- **Alfred Grasso**
  - Coordinator, Palm Beach Public Health
  - Mobile Source Control
- **Charles Maymon**
  - Director/Governmental Relations, LifeFleet
- **Douglas McCoy**
  - VP/Assistant General Manager
  - Waste Management, Inc.
- **Edward Healy**
  - Representative, District 86

Regional

- **Lucy Unsworth**
  - Project Director, Gold Coast Commuter Service

State

- **Linda Loomis Shelley**
  - Secretary, Dept. of Community Affairs
- **George Banks**
  - Director, Division of Purchasing
  - Dept. of Management Services
- **Virginia Wetherell**
  - Secretary, Dept. of Environmental Protection
- **Jim Tait**
  - Director, Florida Energy Office

Federal

- **Hazel O'Leary**
  - Secretary, Department of Energy
- **Roger W. Johnson**
  - Administrator, General Services Administration
- **Carol M. Browner**
  - Administrator, Environmental Protection Agency
- **Buddy L. Jackson**
  - Director, Atlanta Support Office
  - Department of Energy

Florida Gold Coast

Clean Cities Coalition

Proposed Market Development and Legislative Initiative Plan

February 1995

PROPOSED MARKET DEVELOPMENT AND LEGISLATIVE INITIATIVES PLAN
February, 1995

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PROPOSED MARKET DEVELOPMENT AND LEGISLATIVE INITIATIVES PLAN
February, 1995

I. Introduction

At the December 12, 1994, Florida Gold Coast Clean Cities Coalition meeting, the Market Development, Legislative and SIP/MERC Sub-committees recommended that staff develop an alternative fuel plan to be implemented over the next one to five years. This is the first step to develop a plan that both outlines the necessary steps to be undertaken over the next year and connects the first year's activities to a comprehensive five-year plan.

This plan attempts to harmonize the interests of the private and public sectors in order to optimize their expenditures and to generate continuity over time. While progress has been made over the last year to promote the use of alternative fuel vehicles, a great potential exists to fully leverage both public and private sector expenditures. This plan attempts to create public private partnerships so that ultimately both public and private sector fleets will be converted and a truly sustainable market for alternative fuel vehicles can develop in the Florida Gold Coast.

II. Proposed Alternative Fuels Market Development Plan

A. Background

The Florida Gold Coast Clean Cities Coalition was established in order to help improve air quality, foster fuel diversity (energy independence) and encourage economic development through the use of alternative fuel vehicles. The proposed Short Term 1995 Plan and the Five-Year Market Development Plan components will support the achievement of these three overarching goals. In addition, the collaborative efforts of both the public and private sectors are also essential to the achievement of these three goals. Therefore these plans were developed around the assumption that the public and private sectors will work cooperatively in order to achieve these goals.

B. 1995 Short Term Plan

1. Plan Emphasis

Additional research and project analysis by staff revealed that the first year's efforts should be focused on the three major airports of the region including Miami, Ft. Lauderdale and Palm Beach International Airports. Staff recommends that the 1995 efforts focus on the three airport sites for a number of reasons.

First of all, over the last two years, the Florida Department of Community Affairs Energy Office has awarded grants to support infrastructure development and some vehicle procurement at the Palm Beach, Ft. Lauderdale/Hollywood and Miami International airports. Some of the infrastructure, however, either has not been built or is underutilized. Additional commitment of vehicles at these three sites would help fully utilize existing infrastructure and bring on line the anticipated privately funded refueling site at the Ft. Lauderdale/Hollywood International Airport.

Second of all, the Florida Gold Coast has a unique opportunity due to its geography and its settlement patterns to concentrate the development of alternative fuel infrastructure along I-95 corridor. The development of these three specific alternative fuel sites would serve as the starting point and as the "anchor" sites to the subsequent development of the I-95 alternative fuel corridor.

In November 1994, the Infrastructure Sub-committee recommended that a reasonable approach to developing alternative fuel vehicle infrastructure throughout the Florida Gold Coast would be to focus efforts along the I-95 corridor at some level of service standard. Some of the level of service standards include:

- public visibility and convenience to the user
- at least every 10 miles from N. Palm Beach County to Homestead along I-95
- profitable for the fuel supplier at competitive prices
- availability of different fuel types (for example, CNG, propane, electric)
- maximum availability to the general public

The initial efforts to focus on three anchor sites along I-95 corridor will represent the first steps to achieve this level of service standards along the I-95 corridor.

Finally, the development of three specific, and highly visible, sites will help promote the marketing and public awareness of alternative fuel. Greater public awareness and understanding will have to be achieved in order to gain support and to implement a comprehensive alternative fuel program in the future. The development of three alternative fuel airports within the region will provide a necessary beginning to the long-term public awareness component.

2. Goals and Objectives

The three overarching goals are to improve air quality, foster fuel diversity (energy independence) and encourage economic development through the use of alternative fuel vehicles. The development of a sustainable market for alternative fuel vehicles will help achieve these three overarching goals.

In order to develop a sustainable market, the first year's objective is to have three separate sites within the region that are fully utilized[1], and supported by both the public and private sectors. In addition to vehicle conversion and infrastructure development, a comprehensive marketing strategy will also be necessary for public awareness and long term public support of the program and its policies. The development of refueling infrastructure, the conversion of vehicles and public awareness and understanding are therefore the necessary components for the development of a sustainable market over time.

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[1] relative to fuel type

It has been determined that it will be important to leverage private and public sector funds in the most efficient way. **Therefore, in the 1995 Short Term Plan, it is assumed that public sector resources will primarily support vehicle conversions and private sector resources will primarily support refueling infrastructure.**

A number of objective criteria have been outlined which, at minimum, serve as the foundation for the first year's activities. They are the following:

- **Target high mileage or high fuel consumption vehicles that can be serviced around a central facility in and around the airports**
- **Show incremental air quality benefits (possibly below Tier 1 standard)**
- **Provide the opportunity for technological innovation for specialized projects**
- **Encourage a comprehensive marketing strategy and public awareness**

In the first year, fleets or projects reflect these objective criteria would be sought for program participation. The private sector will be responsible for providing the necessary fueling infrastructure to meet the demand when vehicle commitments are secured in order to leverage private sector and public sector funds within the first year. Staff would help coordinate and guarantee commitments from a stakeholders within the region to assure balanced program development.

3. State Funding Allocation and Implementation

In the first year, private sector and public sector fleets meeting the outlined criteria and matching program needs would receive grants for vehicle conversion. To assure a balanced program is implemented, a limited number of special projects (such as electric or electric/hydrogen fuel cell) would also receive funding, but proven conversion technologies would receive the most funding. It is anticipated that potential fleets to be funded in the first year would include airport shuttle vehicles, taxis or jitneys, ramp and runway vehicles and public sector service vehicles. Preliminary estimates show that large numbers of ramp vehicles, shuttle buses and taxis are currently in service at the three airport sites[2]. A significant level of investment is justified by the large volume and limited number of vehicle types at these three sites.

It is estimated that the program would effectively utilize $4 million in state funding for vehicle conversions, with approximately $4 million to be matched with private sector dollars in infrastructure development and related expenditures. **Therefore, to implement the 1995 Short Term Plan, the state should immediately set aside approximately $4 million to the Florida Department of Community Affairs Energy Office to support the Florida Gold Coast Clean**

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[2] EDO estimates show there are over 1600 taxi cabs in service in Dade, Broward and Palm Beach Counties, 68% of which are one vehicle type.

Cities activities and to implement the Governor's Executive Order. The Department of Community Affairs would pass these funds to the Coalition through a contract with the Regional Planning Council.

After funding is passed down from the state to the region, the Coalition would be responsible for making recommendations to the Regional Planning Council concerning which projects should be funded from this initial fund. Contracts would then be made between the RPC and the grantees on behalf of the Clean Cities Coalition. The Coalition and the contract grantor would be responsible for evaluating, administering and marketing the program.

It is anticipated that the first year program success will be judged at minimum according to number of vehicles converted, the number of gallons of petroleum fuel displaced, infrastructure development as direct result of the program, pounds of NOX and VOC reduced by the program and secondary effects such as additional infrastructure development along the I-95 corridor or additional public awareness made as result of the project.

4. State Funding-Anticipated Year 1 Project Budget

Airport Vehicle Conversion	**# of Vehicles/ Estimated Gallons Displaced**	**Estimated Cost**
Shuttle Buses for on-site shuttle service (e.g., airport to car rental site):		
• Electric Buses or Hydrogen/Electric Fuel Cell Buses	6 vehicles	$600,000
• 12 CNG Buses for on-site shuttle service	12 vehicles/219,000 gallons[3]	$600,000
Ramp Vehicles and Service Vehicles for on-site use (e.g., baggage carts, food carts, fueling trucks): • Propane	200 vehicles/730,000 gallons	$600,000
Shuttle or Taxi Fleet for on-site and off-site use (e.g., Super Shuttle-type taxi or jitney service): • CNG or Propane projects meeting outlined criteria	200 to 300 vehicles/730,000 gallons to 1,095,000 gallons	$1,800,000
TOTAL estimated vehicles =	418 to 518 vehicles	
TOTAL estimated gallons displaced=	1,679,000 to 2,044,000 gallons	
	TOTAL Airport Vehicle Conversion Cost	$3,600,000

Project Administration	Description	Cost
Airport Administrator and Administrative Assistant	Implementation of airport/alternative fuels project	$150,000

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[3] All gallon displacement estimates assumes 10 gallons of fuel displaced every day for one year

Legal and Program Assistance	Legal, Federal and Legislative expertise, to be matched by the private sector	$150,000
Marketing Efforts	Promotional materials, graphic art	$50,000
Financial Assistance	Write and Administer Contracts	$50,000
	TOTAL Project Administration	**$400,000**

1995 PUBLIC SECTOR TOTAL	**$4,000,000**

5. Private Sector Funding Allocation and Implementation

The two main goals for the private sector component of the plan are to leverage private sector dollars to develop three "anchor" alternative fuel sites at each of the three international airports of the region and to build additional infrastructure along the I-95 corridor or at important regional "nodes". All plan components should remain flexible enough to allow for changes in the market so that these general goals can be obtained.

In order to fully leverage the funds of both the public and private sectors, it is assumed that public sector resources will primarily support vehicle conversions and private sector resources will primarily support refueling infrastructure. Therefore, private sector funding will be allocated towards the development of the refueling infrastructure that will be necessary to support the $4 million investments in vehicle conversion made by the public sector.

Due to a number of program constraints, it is anticipated that private sector investment in the first year will focus primarily around the Ft. Lauderdale airport. This plan strives to develop an alternative fuel "superstation," within the first year, that could accommodate CNG, propane and electric vehicles at the Ft. Lauderdale-Hollywood International Airport. The superstation would be available for both airside and landside vehicles on or near the airport grounds on a site large enough where all fuel types could be accommodated. The Broward County Aviation Department should be closely involved in the planning of this site. Previously awarded grants recipients for infrastructure improvements may be encouraged to revise contracts to allow for vehicle conversions. It is anticipated that the development of these three sites would foster the development of an additional 2 to 3 public refueling sites that would be open to the public and that could service the related off-site airport oriented vehicles.

It is anticipated that in year two, a superstation could be built at the Miami International Airport and in year three at the Palm Beach International Airport. Information gained on a year by year basis can used towards the development of the year two and year three superstations. In the interim, CNG refueling infrastructure that is currently planned for both the Palm Beach and Miami International Airports could service existing on-site vehicles, or newly converted vehicles under this plan. Under this plan, additional propane and electric fueling stations may be developed at these two sites in addition to the planned CNG refueling stations.

6. Private Sector -- Anticipated Year 1 Project Budget

1995 Airport and I-95 Corridor Infrastructure Development	**Type**	**Cost**
Ft. Lauderdale/Hollywood International Airport "Superstation":	• 1 CNG high capacity fast fill station for on-site vehicles	$1,500,000
	• 2 Propane fueling stations for on-site vehicles	$100,000
	• 1 Electric Charge Station with quick charge capabilities	$100,000
	• 2 to 3 CNG high capacity fast fill stations for off-site shuttles and taxis	$1,000,000
Miami International Airport:	• 1 Propane fueling station, on-site	$50,000
	• 1 Electric Charge Station with quick charge capabilities	$100,000
	• 2 to 3 Public CNG refueling stations along I-95/Airport Corridor	$1,000,000
Palm Beach International Airport:	• 1 Propane fueling station, on-site	$50,000
	• 1 Electric Charge Station with quick charge capabilities	$100,000
	1995 PRIVATE SECTOR TOTAL	$4,000,000

C. Five-Year Market Development Plan

1. Background

The implementation of the 1995 Short Term Plan serves as the starting point of the five-year market development strategy. Therefore, to continue the effort to develop a sustainable market for alternative fuels, a Five-Year Development Plan will be also developed by staff during the first year. The Five-Year Market Development Plan will continue the development of the I-95 alternative fuels corridor and is also anticipated to include a public transit component. In addition to state and private sector funding, the potential for other funding sources such as federal CMAQ moneys and bond funds will be investigated. This strategy is also anticipated to include a comprehensive public education and public relations program in addition to an integrated marketing approach to alternative fuels. This strategy will take into account the successes and interest of the year one program components.

2. Long Term Contextual Issues

The implementation of a short term strategy within the context of a long-term comprehensive market development strategy will be critical to making large strides towards the creation of sustainable program over time. When developing a long term plan, we should also acknowledge the broader contextual issues that directly or indirectly impose barriers or restraints affecting alternative fuel use throughout the country. While not all of the issues can or will be addressed by the Coalition, they represent issues that will assist in stimulating additional alternative fuel market development if addressed.

a. Local

In addition to the 1995 objectives, a number of other local efforts can also help encourage the use of alternative fuels in the region. These efforts should be examined more completely as a part of the long term planning effort. Some examples are as follows.

- Local Ordinances and Incentives
- Integrate Public and Private Infrastructure
- Local Building Ordinances
- Local Vehicle Conversion Initiatives
- Regulatory Barriers

b. State

A number of challenges to the development of a sustainable market for alternative fuel vehicles lie at the state level as well. Some of these issues may be addressed in the short term plan, but others may also become a part of the long term agenda. Some examples are as follows:

- Private Sector Incentives: (see Section III, Legislative Agenda)
- Florida Department of Community Affairs Energy Office Funding: (see Section IB, 1995 Short Term Plan)
- SIP/MERC: Sub-committee established, part of the Five-Year Market Development Plan (see SIP/MERC Sub-committee report)
- Aggregation of State Vehicles: If the state fleet concentrated a majority of its vehicles in the worst air quality areas (such as the Florida Gold Coast) rather than distributed throughout the state, a greater number of state vehicles would be converted in the Florida Gold Coast
- Airport Vehicle Incentive Programs: potential strategy for the Five-Year Market Development Plan
- Regulatory Barriers

c. Federal

A number of additional challenges to the development of a sustainable market for alternative fuel vehicles exist at the federal level. Designated Clean Cities throughout the country are dealing with these same challenges. If these issues are undertaken by the federal government, they may ultimately help any local initiatives. Some issues are as follows:

- Mobile 5: The Mobile 5 emissions model is a computer model that predicts the level of vehicular tailpipe and evaporative emissions. Efforts at the federal level to improve the predictability of this model is being closely watched throughout the country due to the potential significance as it relates to alternative fuel vehicles.
- Cost of Certification: The high cost of vehicle certification has been a national concern. Original Equipment Manufactured Vehicles (OEM) have shown to produce a much greater reduction in NOX and VOC emissions than other converted vehicles, but OEM, or OEM-certified vehicles are not readily available at a reasonable price, due to the high capital costs associated with the development of a certified vehicle. The development of a national market demand (i.e., high volume demand) for OEM vehicles appears to be the only way to encourage the market to develop this type of vehicle.
- CMAQ Funding: In additional to the federal income tax credit for vehicle conversion, substantial ISTEA moneys, in the form of Congestion Mitigation and Air Quality (CMAQ) grants have funded sizable alternative fuel projects throughout the country. In the Florida Gold Coast, CMAQ moneys have not utilized for alternative fuel programs.
- EPACT Finding: If the federal government finds that there is a fuel benefit to extend the Energy Policy Act to private fleets, a significant number of private fleets would be required to covert to alternative fuels, in addition to the requirements for public fleets.
- Concentration of Federal Fleet: If the federal fleet concentrated a majority of its fleet vehicles in the worst air quality areas (such as the Florida Gold Coast) rather than distributed throughout the state, a greater number of federal vehicles would be converted in the Florida Gold Coast.

3. Conceptual Five Year Funding Strategy

	Short Term Options (1)		**Mid-Term Options**		**Long Term Options**		
YEAR	State Funding (2)	Private Sector (3)	New Revenue (4)	CMAQ Funding (5)	Fuel Tax Exemptions(6)	Bond Fund	TOTAL
1995	$4,000,000	$4,000,000	—		?	?	$8,000,000
1996	?	$6,000,000	$6,000,000	$1,000,000	?	?	$13,000,000
1997	?	$6,000,000	$6,000,000	$2,000,000	?	?	$14,000,000
1998	?	$6,000,000	$6,000,000	?	?	?	$12,000,000
1999	?	$6,000,000	$6,000,000	?	?	?	$12,000,000
Total	$4,000,000	$28,000,000	$24,000,000	$3,000,000			$59,000,000

(1) Short Term Options will be directed at the airport plan and I-95 corridor development and are seen as critical to the successful implementation of the program.

(2) While no specific funded plans for 1996-1999 have been developed at this stage, the yearly consistency of state participation is also critical to the program success. This plan assumes that public sector dollars will be targeted towards vehicle conversion.

(3) These estimates assume that private sector dollars will be targeted towards infrastructure development to support necessary demand, and is anticipated to match investment made by the public sector

(4) New revenue will be determined by legislation changes made in the 1995 Legislature. $6,000,000 per annum is an estimate of potential revenue generated by either a $2 emission surcharge or $2 license tag surcharge. New revenue would support vehicle conversions in the airports and along the I-95 corridor throughout Broward, Dade and Palm Beach Counties and would help guarantee a steady revenue source independent from state funding.

(5) CMAQ moneys should be solicited for transit bus conversion in coordination with the MPOs. No amounts are listed after 1998 since reauthorization of ISTEA will occur at that time.

(6) This program would increase the competitive margin of alternative fuels with the benefits accruing directly to the private users. Preliminary estimates show that exemption of state and county fuel taxes would yield an approximate 22 cent saving per equivalent gallon. This program would be sunseted as appropriate.

III. Legislative and Administrative/Regulatory Agenda

A. Background

A number of legislative and administrative actions will be necessary to implement the Florida Gold Coast Market Development Plan. This section outlines the proposed actions that will necessary to implement both the short term and long term components of the plan.

In general, release of 1994/1995 state funding will be necessary to implement the Short Term 1995 Plan, and a number of legislative and administrative actions will be necessary to implement the comprehensive Five-Year Market Development Plan. It is critical to pass these actions in 1995 so that a financing mechanism and additional incentives can be in place by 1996.

B. Legislative and Administrative-Regulatory Objectives

Four objectives serve as the basis for the proposed 1995 Legislative and Administrative/Regulatory actions. First of all, some state funding will be needed to implement the short term plan. Second of all, new revenue sources should be created to fund 1996 program activities and additional vehicle conversions. Finally, incentive strategies can provide significant financial incentives to the private sector to begin converting vehicles. These items are identified and described below.

- **Release state funds to implement the 1995 short term plan activities in the Florida Gold Coast**

  $4 million in available state funding should be released to the Coalition through the Regional Planning Council to implement the 1995 Short Term Plan (See Section II). This funding will be used exclusively for vehicle conversion grants and program implementation. This funding is critical to the success of the 1995 Short Term Plan, and serves as the beginning of a comprehensive alternative fuels implementation strategy for the Florida Gold Coast.

- **Develop new financing strategies that are revenue neutral and regionally administered that will fund long term plan components and provide program continuity**

  New financing strategies should be developed to support long term activities so that the program is not dependent on state funding alone. New revenue would fund additional programs, or would replace allocated state funds, in the attempt to achieve revenue neutrality. The achievement of revenue neutrality will help establish an economically viable and sustainable program over time.

  This program is proposed as a regional program that will specifically benefit the Gold Coast. The region would like to assume responsibility for administering the program, and therefore new funding should be collected and distributed through a regional entity. Furthermore, alternative fuel programs throughout the country that have collected and distributed funds through a regional entity, rather that on a state-wide level, have shown success and have promoted regional responsibility and accountability.[4]

- **Create incentive strategies to encourage vehicle conversions in the future so that a sustainable market can develop**

  Incentive strategies to encourage vehicle conversions by both the public and the private sector must be put into place. Incentives must be made available to the private sector so that a sustainable market can develop in the future. Even though it will continue to be important to convert public sector fleets to alternative fuels, there are not enough public sector vehicles in existence to create a sustainable market for alternative fuel vehicles. Offering incentives to the private sector is therefore critical to the success of the program.

- **Enact necessary changes in the State Implementation Plan through administrative procedure to allow Mobile Emissions Reduction Credits as an incentive for alternative fuel vehicle conversion**

  The opportunity to allow Mobile Emissions Reduction Credits (MERC) through changes to the State Implementation Plan (SIP) should be explored. As Original Equipment Manufactured (OEM) vehicles become readily available and air quality benefits can be ensured, MERCS can serve as an additional private sector incentive to convert to alternative fuel vehicles. Other intermediary steps to changes in the SIP can also be explored as a part of this long-term process.

C. 1995 Legislative and Administrative-Regulatory Actions

To achieve the objectives as outlined above, a number of actions are proposed for 1995. These actions will help implement the 1995 short term and long term components of the Market Development Plan. The emissions surcharge or the license tag registration surcharge is proposed as a new funding source that would require legislative action. The waiver of the fee associated with the existing alternative fuel decal, and the waiver of additional state and local taxes on EPACT[5] defined fuels are two incentive strategies that would also require legislative action. The Mobile Emissions Reduction Credit program has been envisioned as an additional private sector incentive program that would require administrative and regulatory actions.

1. Emission Surcharge or License Tag Registration Surcharge

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[4] *Obstacles and Incentives to Alternative Fuel Vehicle Use in the Florida Gold Coast*, Report to the Florida Gold Coast Clean Cities Coalition, December, 1994.

[5] The Energy Policy Act defines methanol, denatured ethanol and other alcohols; mixtures containing 85% or more by volume of methanol, denatured ethanol and other alcohols with gasoline or other fuels; natural gas; liquefied petroleum gas; hydrogen; coal-derived liquid fuels; fuels (other than alcohol) derived from biological material; and electricity as alternative fuels

To support an ambitious vehicle conversion program in 1996, new revenue sources must be generated. New financing strategies will allow that program to become self-sustaining over time. New funding generated would be placed into a revolving "alternative fuels fund" that would fund alternative fuel conversions and program activities. The objective of the fund is to achieve some level of revenue neutrality, so that there is not a significant net loss of revenue from the state as a result of the program.

One way to generate new revenue is to place a surcharge on the existing emissions testing fee. In the State of Florida, the Regional Motor Vehicle Emissions Inspection Surcharge is collected on all model years 1975 and newer in non-attainment areas. The vehicle must pass an emission test before a license tag is renewed. In the Gold Coast, this test is administered by the County Division of the State Department of Motor Vehicles and costs the vehicle owner $10. Currently, there are no additional costs associated with this fee.

To raise additional revenues to support alternative fuel vehicle conversions in year two through five, an additional surcharge could be placed on this existing fee. (A surcharge on the license tag registration could serve a similar purpose.) This surcharge could potentially fund alternative fuel conversion programs in year two through five. The surcharge would be placed on the existing fee, and placed into a newly created "alternative fuels fund," less any administrative fees to the County Division of Motor Vehicles. This "alternative fuels fund" would be used for future vehicle conversions in a manner similar to the 1995 short term plan (See Section II). Therefore, while the year one program activities would be primarily funded by the state, year two through five program activities could be funded almost completely by this new financing mechanism. Thus, this strategy would help guarantee a steady revenue source independent from state funding.

The amount of new revenue generated will be determined by changes made in the 1995 Legislature. A bill that would allow an additional fee on the existing emission test or on the license tag registration will be necessary. $6,000,000 per annum is a rough estimate of potential revenue generated by either a $2 emission testing surcharge or $2 license tag surcharge. New revenue would be placed in a regional "alternative fuels fund" that would support vehicle conversions and program activities in Broward, Dade and Palm Beach counties, where the fee was issued. Vehicle conversions would occur in accordance with the Coalition's goals and objectives as outlined in the Five-Year Market Development Plan.

The emission surcharge is a strong option because the revenue generated from a "problem" (air pollution vehicular emissions) directly funds a "solution" (the proliferation of clean fuel vehicles). If this direct link between problem and solution exists, the funding mechanism will be efficient and is likely to be supported by the general public.

A bill has been drafted for introduction in the 1995 legislature that would exempt all new vehicles from the emissions testing program for the first three years (proposed HB45). Passage of this bill may decrease the potential revenue production from the proposed alterantive fuel fee on the emission test. If the alternative fuel fee is placed directly on the license tag registration rather than on the emissions test, the proposed HB45 would not be in conflict with this proposed financing strategy.

2. Waiver of Fee Associated with Existing Alternative Fuel Decal Fee

The fee associated with the existing alternative fuel decal has been identified as a barrier to alternative fuel vehicle use in the Florida Gold Coast.[6] The waiver of this fee, for some period of time, could serve as a significant incentive to the private sector.

The alternative fuel decal fee was designed in place of the state and local road taxes for AFV users. This flat, pre-paid fee may range from $92.00 to $231.00[7] annually for motor vehicles fueled by compressed or liquefied natural gas. This fee is currently required of all private sector and federal fleets, and amounts to approximately 22 cents per equivalent gallon in state and local road taxes. This tax is approximately equivalent to the maximum allowed state and local road taxes placed on gasoline.

Currently, a driver is subject to penalties for fueling an alternative fuel vehicle without the presence of a decal. According to industry observation, however, the program is rarely enforced, and penalties are rarely assessed. Even though some users do pay for the decal, there is little reason to pay the associated fee. Therefore, the existence of the fee serves as an initial barrier, and the revenue generated from the existing alternative decal is almost insignificant.

A temporary waiver of this fee therefore would not have a significant revenue impact. As the alternative fuels program in the region grows, however, and as more alternative fuel vehicles are put into use, the fee on alternative fuel vehicle registration could slowly be reinstated. For example, after 20,000 alternative fuel vehicles are registered, 50% of the original fee could be reinstated, and after 40,000 alternative fuel vehicles are registered, 100% of the fee could be reinstated. Thus, once the program is established, this emerging tax market could then be targeted, and any nominal tax losses in the first years would be offset by the substantial increase in new revenue.

There are a number of benefits to continuing to administer the alternative fuel decal, even if the associated fee is temporarily waived. First of all, registration and identification of the vehicle as an alternative fuel vehicle will be important to determine when the associated fee should be reinstated, based on the number of registered vehicles. Second of all, this program could compile a database of registered vehicles, which could be utilized to assess cumulative air quality benefits and fuel displacement as a result of the program. Thirdly, the alternative fuel decal will allow all alternative fuel vehicles to be clearly identified. This will be important if municipalities wish to allow additional incentives for alternative fuel vehicles, such as parking privileges, HOV lane restriction and toll exemptions. Finally, an efficient alternative fuel vehicle registration system will need to be in place before a MERC program can be effectively administered. In order to be eligible for a MERC credit, a vehicle would have to be registered as a certified alternative fuel vehicle. The alternative fuel decal registration process could be utilized for this purpose. In addition, a nominal "MERC fee" may also be eventually added to this fee to fund the administration of the MERC program.

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[6] *Obstacles and Incentives to Alternative Fuel Vehicle Use in the Florida Gold Coast*, Report to the Florida Gold Coast Clean Cities Coalition, December, 1994

[7] This fee varies by vehicle class and by county

3. Waiver of additional taxes on EPACT fuels

The waiving of additional taxes on EPACT fuels, over a limited period of time, could serve as an additional incentive to alternative fuel vehicle use. In addition to road taxes in the form of the alternative fuel fee, all fleets also pay approximately 8 cents per gallon in state sales tax, and 18 cents per gallon in federal taxes. The waiving of the taxes would allow alternative fuels to be more competitive, relative to gasoline.

Like the elimination the of the fee associated with the alternative fuel decal, a temporary waiver of these taxes would not have a significant revenue impact initially because there are so few vehicles on the road at this time. As more alternative fuel vehicles are put into use, however, the taxes are reinstated and the emerging tax market is targeted. Thus, any nominal tax losses in the first years are offset by the substantial increase in new tax revenue.

4. Mobile Emissions Reduction Credits (MERC)

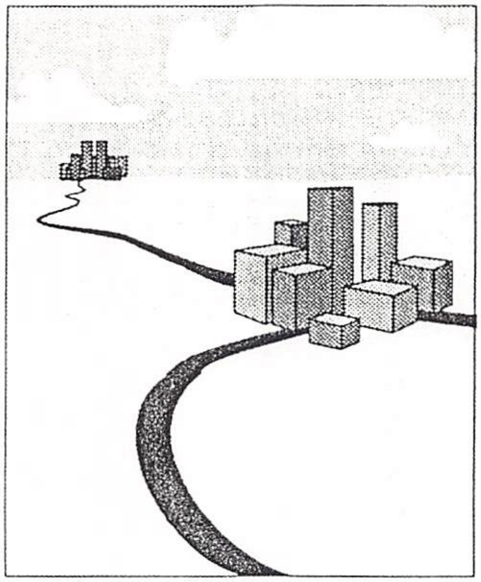
The state is required to submit a State Implementation Plan (SIP) describing how each city or region in the state will come into compliance (or maintain compliance) with the Clean Air Act (CAA). This plan becomes the blue print by which EPA measures state or regional efforts to comply with the law. What has been envisioned for this region is to allow a MERC program to be included as a contingency measure for conformance with the SIP.

A MERC program can serve as an additional incentive to the private sector to convert their vehicles to alternative fuels. This program would allow stationary sources to fulfill their pollution obligations by paying for the conversion of vehicles to alternate fuels. In general, the goal of a MERC program is to create an economic benefit from the environmental benefit of alternative fuel vehicles.

The only way such a program can exist, however, is if it is part of the SIP plan submitted by the state to EPA. At this time no such provision exists. This program could be developed as an option exclusively for the Gold Coast, or for the entire state. It is anticipated that a MERC program which is primarily used as an incentive for alternative fuel vehicle conversion can be implemented as a part of the SIP revision process and would not necessitate legislative action.

As previously stated, certain intermediary steps (such as continuation of the alternative fuel vehicle registration and issuance of the decal) will be advantageous towards the eventual implementation of a MERC program. These intermediary steps should be encouraged based on their own merits and according to their role to develop an administrative framework for the implementation of a MERC program.

Florida Gold Coast



Clean Cities Coalition

Alternative Fuel Vehicle Revolving Loan Program

Florida Gold Coast Clean Cities Coalition

Alternative Fuel Vehicle Revolving Loan Program

Sponsored by the
South Florida Regional Planning Council
in conjunction with the
Florida Department of Community Affairs

3440 Hollywood Blvd., Suite 140
Hollywood, Florida 33021

FLORIDA GOLD COAST CLEAN CITIES COALITION
ALTERNATIVE FUEL VEHICLE REVOLVING LOAN PROGRAM

ABOUT THE FLORIDA GOLD COAST CLEAN CITIES COALITION

The Florida Gold Coast Clean Cities Coalition was created in 1993 by the State of Florida Executive Order 93-278. The Coalition serves as an advisory council in the area of alternative fuels.

Since its creation, the Coalition has been developing strategies to help both public entities and private businesses convert their vehicles to alternative fuels. The Coalition has also been working with the private sector to develop additional refueling sites throughout Broward, Dade and Palm Beach counties.

Almost 3,000 alternative fuel vehicles are currently on the road in the Florida Gold Coast. This program has been created to put even more alternative fuel vehicles into use. The continued the use of alternative fuels can help decrease the region's dependence on foreign fuels and promote economic growth within the region; all while improving the air that we breathe in South Florida.

LOAN PROGRAM GOALS, OBJECTIVES AND BENEFITS

PROGRAM GOALS AND OBJECTIVES

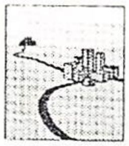
The primary goal of the Revolving Loan Program is to provide funding to put alternative fuel vehicles on the road. Other specific objectives of the loan program include:

- Maximizing air quality benefits through the use of proven technologies
- Reducing the dependence on petroleum-based fuels
- Supporting economically viable projects, including high mileage or high fuel consumption vehicles
- Encouraging the demonstration of all alternative fuel technologies
- Promoting a number of viable projects throughout the entire Gold Coast area
- Fully utilizing existing infrastructure
- Encouraging the development of new infrastructure by the private sector

PROGRAM BENEFITS

Participation in the Gold Coast Loan Program can provide a number of benefits to the program participants. Some of the benefits from participating in the loan program and from using alternative fuels include:

- Decreased fuel costs, reduced vehicle maintenance and extended vehicle life
- Reduced up-front costs for the program participant
- Improved air quality from reduced vehicle emissions
- Increased knowledge and awareness about cleaner-burning fuels



Loan Program Eligibility and Criteria

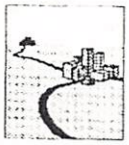
Loan Eligibility

A total of $2.5 million is currently dedicated to the Loan Program. Of these funds, $500,000 is reserved for the exclusive use of Local Government. The remaining $2 million will be open to eligible private and public sector fleets that meet the loan criteria. Additional funding may become available; based of the success of the loan program.

Loans will be made available to finance the incremental costs to convert or purchase a vehicle that operates on an EPACT-defined alternative fuel rather than on gasoline. Under the Energy Policy Act of 1992, the following are defined as alternative fuels:

- natural gas
- liquefied petroleum gas (propane)
- electricity
- hydrogen
- coal-derived liquid fuels
- fuels (other than alcohol) derived from biological material
- methanol, and mixtures containing 85% or more by volume of methanol
- denatured ethanol and other alcohols, and denatured ethanol and other alcohols with gasoline or other fuels

Loans may be used to cover the total cost of vehicle conversion or to pay for the incremental purchase cost of an Original Equipment Manufactured (OEM) vehicle. The maximum loan amount for a vehicle is between $5,000 and $30,000, depending on vehicle type and size. The total loan amount may not exceed $500,000. Loans may not be used for refueling infrastructure.



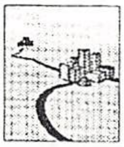
PRIMARY LOAN CRITERIA

All primary loan criteria must be met before the loan application will be considered.

- Ability to repay the loan within five years maximum
- Availability of fuel and refueling facilities, or a commitment to provide such facilities
- Proof of financial stability of the borrowing entity
- Vehicles must be based and primarily operated within Broward, Dade or Palm Beach counties
- Compressed Natural Gas conversions must be on Vehicle Models no older than three years old at the time of the application, with documented maintenance records

SECONDARY LOAN CRITERIA

- Preference will be given to projects able to pay back loans in less than five years
- Consideration will be given to projects that maximize air quality benefits and that displace the maximum amount of petroleum-based fuel
- Attempts will be made to foster a number of projects throughout the region that represent a variety of fuel types
- All projects are encouraged to be consistent with the objectives of the Coalition's *Market Development Plan*



Loan Program Administration

Technical Assistance

Technical assistance will be available to all potential loan applicants. This may include determining the economic feasibility of the project or preparing the loan application. Technical assistance may be arranged by contacting the Florida Gold Coast Clean Cities Coordinator.

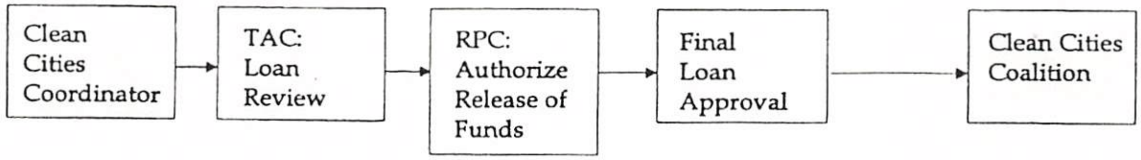
Information regarding the eligible fuels, available equipment, funding options and existing incentives will also be made available. Consultation with suppliers of fuel and equipment will be arranged as warranted.

Loan Application Process

Pre-application Worksheets and Loan Applications are available from the Clean Cities Coordinator. The completion of the Pre-application Worksheet will help determine the economic feasibility of the project. Completed Loan Applications and Worksheets will be submitted to the Clean Cities Coordinator.

All applications will be reviewed in regards to the achievement of the primary and secondary loan criteria. Input will be given by the Coalition's Technical Advisory Committee (TAC). Applications receiving a favorable recommendation will be forwarded monthly to the Regional Planning Council. The Regional Planning Council will vote to authorize the release of funding for recommended applications. Loan applications not authorized to receive funding may be modified and resubmitted.

LOAN APPLICATION PROCESS



Receives Loan Application by seventh of the month.

Reviews Loan Application by the fifteenth of the month.

Authorize release of funds first Monday of the month.

Final Loan Approval given within 21 days.

Update of all loans given at Clean Cities Coalition meeting, once every two months.

LOAN REPAYMENT

Loan repayment will be based on the estimated savings when the vehicle is operating on the alternative fuel rather than on gasoline. This payback rate will be based on the estimated savings in fuel costs, maintenance costs, or other savings that can be reasonably documented. The repayment schedule will be finalized at the time of loan processing.

FINAL LOAN APPROVAL

A neutral Loan Administrator will give final loan approval, process the loan application and write the loan note. Loans will be processed within twenty-one days following authorization by the Regional Planning Council. Loan payments will occur at least on a quarterly basis.

An update of all approved loans will be given at the Clean Cities Coalition meetings, once approximately every two months.

For additional information or a copy of the Loan Application please contact:

Clean Cities Coordinator
c/o South Florida Regional Planning Council
3440 Hollywood Blvd., Suite 140
Hollywood, FL 33021
Phone (305) 985-4416 from Broward County
(800) 985-4416 from Dade and Palm Beach Counties

ATTCH I

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SECRETARY OF STATE

State of Florida

OFFICE OF THE GOVERNOR

EXECUTIVE ORDER NUMBER 93-278

WHEREAS, more than 8.5 billion dollars are expended annually in Florida on the purchase of petroleum based motor fuels, and

WHEREAS, approximately 50% of the petroleum consumed in Florida is derived from foreign sources, and

WHEREAS, nine Florida metropolitan areas have been designated under the 1992 federal Energy Policy Act as targets for the development of alternative transportation fuels for federal fleets, and

WHEREAS, Florida's Gold Coast, consisting of Broward, Dade and Palm Beach Counties, has been recommended as one of thirteen first priority areas nationwide for federal fleet conversions, and

WHEREAS, all Floridians can benefit from efforts to provide more available domestic fuels and less environmentally damaging alternative fuels, and

WHEREAS, it is the Governor's policy to build an energy-efficient economy within Florida which is not subject to foreign energy prices and supply decisions, and

WHEREAS, in 1992 this state established the strategic goal of converting 20% of our State Government fleet to alternative fuels by 1996 and in 1993, the Florida Legislature enacted a $4.4

million alternative fuel program, and

WHEREAS, pursuant to these executive and legislative requirements, the Secretary of the Florida Department of Community Affairs has proposed an aggressive state program to support the market development of alternative transportation fuels.

NOW, THEREFORE, I, LAWTON CHILES, as Governor of the State of Florida, and by the powers vested in me by the Constitution and laws of this state, hereby promulgate the following executive order, effective immediately:

Section 1.

There is hereby created a Florida Gold Coast Clean Cities Coalition composed of public and private leaders in the Broward, Dade and Palm Beach County area. The Secretaries of the Florida Department of Community Affairs, the Florida Department of Environmental Protection and the Florida Department of Management Services, or their designees, shall serve as members of the Coalition. Designees of the U. S. Secretary of Energy and the administrators of the U. S. Environmental Protection Agency and General Services Administration, the director of the U. S. Department of Energy, Atlanta Regional Office and the director of the Florida Energy Program shall also be members.

Section 2.

The Coalition shall be chaired by the chairman of the South Florida Regional Planning Commission. Additional members shall consist of at least:

1) Four members from Dade County:

2) Four members from Broward County:

3) Four members from Palm Beach County:

Section 3.

The Coalition shall, by January 1, 1994, submit its plan to encourage the use of alternative-fueled fleet vehicles in the Florida Gold Coast Corridor. By the end of the decade, all possible fleet vehicles should use the most efficient, least-polluting alternative fuels. The plan shall contain:

A. Recommendations for the removal of any legal or institutional obstacles to implementation of alternatively fueled vehicles fleets.

B. Overall vehicle and refueling station targets emphasizing accelerated implementation with clear responsibilities, commitment, budgeting, auditing and reporting. The Coalition should initially focus on the attainment of converting or replacing 30,000 conventionally fueled vehicles with alternatively fueled vehicles in Broward, Dade and Palm Beach counties by December 31, 1996.

C. Commitments from public and private fleet operators to replace conventionally fueled vehicles with alternatively fueled vehicles through conversion of existing vehicles or the purchase of new vehicles in order to comply with the 1992 Federal Energy Policy Act and the goals of the Presidential Federal Fleet Conversion Task Force.

D. Commitments for the commercial fueling infrastructure necessary for the widespread use and acceptance of alternative fuel vehicles.

E. Implementation of a coordinated information resource program which identifies sources for funding vehicle conversions, qualified conversion and service vendors, and coordination of the geographic placement of fueling infrastructure.

F. A forum for the discussion and resolution of problems encountered by public and private fleet owners, and infrastructure developers, participating in the program to provide the critical support activities necessary to overcome barriers and assure high levels of customer satisfaction.

Section 4.

The Coalition may create working groups composed of interested industry, government and business representatives for each fuel type and may develop advisory panels as necessary.

Section 5.

All state agencies are requested to provide such assistance as may be requested by the Coalition in order to accomplish the purposes outlined by this executive order.

Section 6.

This executive shall expire on December 31, 1996, unless extended by amendment.

IN TESTIMONY WHEREOF, I have hereunto set my hand and have caused the Great Seal of the State of Florida to be affixed at Tallahassee, the Capitol, this 30th day of September, 1993.

Lawton Chiles

GOVERNOR

ATTEST:

Jim Smith

SECRETARY OF STATE

- Mobile 5: The Mobile 5 emissions model is a computer model that predicts the level of vehicular tailpipe and evaporative emissions. Efforts at the federal level to improve the predictability of this model is being closely watched throughout the country due to the potential significance as it relates to alternative fuel vehicles.
- Cost of Certification: The high cost of vehicle certification has been a national concern. Original Equipment Manufactured Vehicles (OEM) have shown to produce a much greater reduction in NOX and VOC emissions than other converted vehicles, but OEM, or OEM-certified vehicles are not readily available at a reasonable price, due to the high capital costs associated with the development of a certified vehicle. The development of a national market demand (i.e., high volume demand) for OEM vehicles appears to be the only way to encourage the market to develop this type of vehicle.
- CMAQ Funding: In additional to the federal income tax credit for vehicle conversion, substantial ISTEA moneys, in the form of Congestion Mitigation and Air Quality (CMAQ) grants have funded sizable alternative fuel projects throughout the country. In the Florida Gold Coast, CMAQ moneys have not utilized for alternative fuel programs.
- EPACT Finding: If the federal government finds that there is a fuel benefit to extend the Energy Policy Act to private fleets, a significant number of private fleets would be required to covert to alternative fuels, in addition to the requirements for public fleets.
- Concentration of Federal Fleet: If the federal fleet concentrated a majority of its fleet vehicles in the worst air quality areas (such as the Florida Gold Coast) rather than distributed throughout the state, a greater number of federal vehicles would be converted in the Florida Gold Coast.

3. Conceptual Five Year Funding Strategy

	Short Term Options (1)		Mid-Term Options		Long Term Options		
YEAR	State Funding (2)	Private Sector (3)	New Revenue (4)	CMAQ Funding (5)	Fuel Tax Exemptions(6)	Bond Fund	TOTAL
1995	$4,000,000	$4,000,000	—		?	?	$8,000,000
1996	?	$6,000,000	$6,000,000	$1,000,000	?	?	$13,000,000
1997	?	$6,000,000	$6,000,000	$2,000,000	?	?	$14,000,000
1998	?	$6,000,000	$6,000,000	?	?	?	$12,000,000
1999	?	$6,000,000	$6,000,000	?	?	?	$12,000,000
Total	$4,000,000	$28,000,000	$24,000,000	$3,000,000			$59,000,000

(1) Short Term Options will be directed at the airport plan and I-95 corridor development and are seen as critical to the successful implementation of the program.

(2) While no specific funded plans for 1996-1999 have been developed at this stage, the yearly consistency of state participation is also critical to the program success. This plan assumes that public sector dollars will be targeted towards vehicle conversion.

(3) These estimates assume that private sector dollars will be targeted towards infrastructure development to support necessary demand, and is anticipated to match investment made by the public sector.

ATTCH II

ATTCH III

RESOLUTION #95-1

A RESOLUTION OF THE GOLD COAST CLEAN CITIES COALITION SUPPORTING THE INITIATION OF LOCAL INCENTIVES FOR ALTERNATIVE FUEL VEHICLES IN DADE, BROWARD AND PALM BEACH COUNTIES.

WHEREAS, the State of Florida, Office of the Governor, has by Executive Order formed the Gold Coast Clean Cities Coalition to encourage the use of alternative fuel vehicles; and

WHEREAS, the counties of Palm Beach, Broward, and Dade, comprising the Florida Gold Coast, have been designated as a Clean City by the United States Department of Energy; and

WHEREAS, the Strategic Regional Policy Plan for South Florida includes policies to improve the regional air quality, promote economic development and energy security and sustainability by promoting the use of alternative fuel vehicles and less polluting vehicles; and

NOW, THEREFORE, BE IT RESOLVED BY THE FLORIDA GOLD COAST CLEAN CITIES COALITION, MEETING IN SESSION IN BROWARD COUNTY, FLORIDA:

SECTION 1: That the Florida Gold Coast Clean Cities Coalition hereby states that it supports the adoption of four local incentives:

a. HOV lane restriction exemptions for EPACT-defined* alternative fuel vehicles

b. Toll holiday for EPACT-defined alternative fuel vehicles not otherwise restricted

c. Public parking fee abatement for EPACT-defined alternative fuel vehicles

d. Preferential or designated parking for EPACT-defined alternative fuel vehicles

SECTION 2: That the adoption of these incentives will encourage public entities and private businesses to convert or purchase vehicles operating on EPACT-defined alternative fuels; and

SECTION 3: That the Florida Gold Coast Clean Cities Coalition states that it will work with local governments and the state to implement these incentives as quickly as possible; and

SECTION 4: That the Florida Gold Coast Clean Cities Coalition states that it encourages other areas of the state to pass similar resolutions; and

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* The Energy Policy Act defines methanol, denatured ethanol and other alcohols; mixtures containing 85% or more by volume of methanol, denatured ethanol and other alcohols with gasoline or other fuels; natural gas; liquefied petroleum gas; hydrogen; coal-derived liquid fuels; fuels (other than alcohol) derived from biological material; and electricity as alternative fuels

SECTION 5: That the Florida Gold Coast Clean Cities Coalition hereby submits these four incentives to the Governor's Office approved on this date.

PASSED AND ADOPTED BY THE FLORIDA GOLD COAST CLEAN CITIES COALITION THIS 5th DAY OF JUNE, 1995.

Suellen H. Fardelmann, Chair
Florida Gold Coast Clean Cities Coalition

ATCH IV

SEC. 303. MINIMUM FEDERAL FLEET REQUIREMENT.

Existing Vehicles

(a) GENERAL REQUIREMENTS.—(1) The Federal Government shall acquire at least—

(A) 5,000 light duty alternative fueled vehicles in fiscal year 1993;

(B) 7,500 light duty alternative fueled vehicles in fiscal year 1994; and

(C) 10,000 light duty alternative fueled vehicles in fiscal year 1995.

(2) The Secretary shall allocate the acquisitions necessary to meet the requirements under paragraph (1).

New Fleets

new Purchases

(b) PERCENTAGE REQUIREMENTS.—(1) Of the total number of vehicles acquired by a Federal fleet, at least—

(A) 25 percent in fiscal year 1996;

(B) 33 percent in fiscal year 1997;

(C) 50 percent in fiscal year 1998; and

(D) 75 percent in fiscal year 1999 and thereafter,

shall be alternative fueled vehicles.

(2) The Secretary, in consultation with the Administrator of General Services where appropriate, may permit a Federal fleet to acquire a smaller percentage than is required in paragraph (1), so long as the aggregate percentage acquired by all Federal fleets is at least equal to the required percentage.

(3) For purposes of this subsection, the term "Federal fleet" means 20 or more light duty motor vehicles, located in a metropolitan statistical area or consolidated metropolitan statistical area, as established by the Bureau of the Census, with a 1980 population of more than 250,000, that are centrally fueled or capable of being centrally fueled and are owned, operated, leased, or otherwise controlled by or assigned to any Federal executive department, military department, Government corporation, independent establishment, or executive agency, the United States Postal Service, the Congress, the courts of the United States, or the Executive Office of the President. Such term does not include—

(A) motor vehicles held for lease or rental to the general public;

(B) motor vehicles used for motor vehicle manufacturer product evaluations or tests;

(C) law enforcement vehicles;

(D) emergency vehicles;

(E) motor vehicles acquired and used for military purposes that the Secretary of Defense has certified to the Secretary must be exempt for national security reasons; or

(F) nonroad vehicles, including farm and construction vehicles.

(c) ALLOCATION OF INCREMENTAL COSTS.—The General Services Administration and any other Federal agency that procures motor vehicles for distribution to other Federal agencies may allocate the incremental cost of alternative fueled vehicles over the cost of comparable gasoline vehicles across the entire fleet of motor vehicles distributed by such agency.

(d) APPLICATION OF REQUIREMENTS.—The provisions of section 400AA of the Energy Policy and Conservation Act relating to the Federal acquisition of alternative fueled vehicles shall apply to the acquisition of vehicles pursuant to this section.

(e) RESALE.—The Administrator of General Services shall take all feasible steps to ensure that all alternative fueled vehicles sold by the Federal Government shall remain alternative fueled vehicles at time of sale.

(f) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated for carrying out this section, such sums as may be necessary for fiscal years 1993 through 1998, to remain available until expended.

SEC. 304. REFUELING.

(a) IN GENERAL.—Federal agencies shall, to the maximum extent practicable, arrange for the fueling of alternative fueled vehicles acquired under section 303 at commercial fueling facilities that offer alternative fuels for sale to the public. If publicly available fueling facilities are not convenient or accessible to the location of Federal alternative fueled vehicles purchased under section 303, Federal agencies are authorized to enter into commercial arrangements for the purposes of fueling Federal alternative fueled vehicles, including, as appropriate, purchase, lease, contract, construction, or other arrangements in which the Federal Government is a participant.

(b) AUTHORIZATION OF APPROPRIATIONS.—There are authorized

ATTCH V

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SEC. 410. ALTERNATIVE FUEL BUS PROGRAM.

(a) COOPERATIVE AGREEMENTS AND JOINT VENTURES.—(1) The Secretary of Transportation, in consultation with the Secretary, may enter into cooperative agreements and joint ventures proposed by any municipal, county, or regional transit authority in an urban area with a population over 100,000 (according to latest available census information) to demonstrate the feasibility of commercial application, including safety of specific vehicle design, of using alternative fuels for urban buses and other motor vehicles used for mass transit.

PBC

(2) The cooperative agreements and joint ventures under paragraph (1) may include interested or affected private firms willing to provide assistance in cash, or in kind, for any such demonstration.

(3) Federal assistance provided under cooperative agreements and joint ventures entered into under paragraph (1) to demonstrate the feasibility of commercial application of using alternative fuels for urban buses shall be in addition to Federal assistance provided under any other law for such purpose.

(b) LIMITATIONS.—(1) The Secretary of Transportation may not enter into cooperative agreement or joint venture under subsection (a) with any municipal, county, or regional transit authority, unless such government body agrees to provide 20 percent of the costs of such demonstration.

20% match necessary

(2) The Secretary of Transportation may grant such priority under this section to any entity that demonstrates that the use of alternative fuels for transportation would have a significant beneficial effect on the environment.

(c) SCHOOL BUSES.—The Secretary of Transportation may also provide, in accordance with such rules as he may prescribe, financial assistance to any agency, municipality, or political subdivision in an urban area referred to in subsection (a), of any State or the District of Columbia for the purpose of meeting the incremental costs of school buses that are dedicated vehicles and used regularly for such transportation during the school term. Such costs may include the purchase and installation of alternative fuel refueling facilities to be used for school bus refueling, and the conversion of school buses to dedicated vehicles. The Secretary of Transportation may provide such assistance directly to a person who is a contractor of such agency, municipality, or political subdivision, upon the request of the agency, municipality, or political subdivision, and who, under such contract, provides for such transportation. Any conversion under this subsection shall comply with the warranty and safety requirements for alternative fuel conversions contained in section 247 of the Clean Air Act Amendments of 1990.

PBC >100,000 Population

(d) FUNDING AUTHORIZATION.—There are authorized to be appropriated not more than $30,000,000 for each of the fiscal years 1993, 1994, and 1995 for purposes of this section.

30 million each year
1993 - 1995

SEC. 411. CERTIFICATION OF TRAINING PROGRAMS.

The Secretary shall ensure that the Federal Government establishes and carries out a program for the certification of training programs for technicians who are responsible for motor vehicle installation of equipment that converts gasoline or diesel-fueled motor vehicles into dedicated vehicles or dual fueled vehicles, and for the maintenance of such converted motor vehicles. A training program shall not be certified under the program established under this section unless it provides technicians with instruction on the proper and safe installation procedures and techniques, adherence to specifications (including original equipment manufacturer specifications), motor vehicle operating procedures, emissions testing, and other appropriate mechanical concerns applicable to these motor vehicle conversions. The Secretary shall ensure that, in the development of the program required under this section, original equipment manufacturers, fuel suppliers, companies that convert conventional vehicles to use alternative fuels, and other affected persons are consulted.

ATTCH II

SEC. 412. ALTERNATIVE FUEL USE IN NONROAD VEHICLES AND ENGINES.

- FAU conduct study ?

(a) NONROAD VEHICLES AND ENGINES.—(1) The Secretary shall conduct a study to determine whether the use of alternative fuels in nonroad vehicles and engines would contribute substantially to reduced reliance on imported energy sources. Such study shall be completed, and the results thereof reported to Congress, within 2 years after the date of enactment of this Act.

(2) The study shall assess the potential of nonroad vehicles and engines to run on alternative fuels. Taking into account the nonroad vehicles and engines for which running on alternative fuels is feasible, the study shall assess the potential reduction in reliance on foreign energy sources that could be achieved if such vehicles were to run on alternative fuels.

(3) The report required under paragraph (1) may include the Secretary's recommendations for encouraging or requiring nonroad vehicles and engines which can feasibly be run on alternative fuels, to utilize such alternative fuels.

(b) DEFINITION OF NONROAD VEHICLES AND ENGINES.—Nonroad vehicles and engines, for purposes of this section, shall include nonroad vehicles and engines used for surface transportation or principally for industrial or commercial purposes, vehicles used for rail transportation, vehicles used at airports, vehicles or engines used for marine purposes, and other vehicles or engines at the discretion of the Secretary.

(c) DESIGNATION.—Upon completion of the study required pursuant to subsection (a) of this section, the Secretary may designate such vehicles and engines as qualifying for loans pursuant to section 414 of this title.

SEC. 413. REPORTS TO CONGRESS.

Within 6 months after the date of enactment of this Act, the Secretary shall—

(1) identify and report to Congress on purchasing policies of the Federal Government which inhibit or prevent the purchase by the Federal Government of alternative fueled vehicles; and

(2) report to Congress on Federal, State, and local traffic control measures and policies and how the use of alternative fueled vehicles could be promoted by granting such vehicles exemptions or preferential treatment under such measures.

25,000,000

SEC. 414. LOW INTEREST LOAN PROGRAM.

(a) ESTABLISHMENT.—Within 1 year after the date of enactment of this Act, the Secretary shall establish a program for making low interest loans, giving preference to small businesses that own or operate fleets, for—

(1) the conversion of motor vehicles to operation on alternative fuels;

(2) covering the incremental costs of the purchase of motor vehicles which operate on alternative fuels, when compared with purchase costs of comparable conventionally fueled motor vehicles; or

(3) covering the incremental costs of purchase of non-road vehicles and engines designated by the Secretary pursuant to section 412(c) of this title.

(b) LOAN TERMS.—The Secretary, to the extent practicable, shall establish reasonable terms for loans made under this subsection, with preference given to repayment schedules that enable such loans to be repaid by the borrower from the cost differential between gasoline and the alternative fuel on which the motor vehicle operates.

(c) CRITERIA.—In deciding to whom loans shall be made under this subsection, the Secretary shall consider—

(1) the financial need of the applicant;

(2) the goal of assisting the greatest number of applicants; and

(3) the ability of an applicant to repay the loan, taking into account the fuel cost savings likely to accrue to the applicant.

(d) PRIORITIES.—Priority shall be given under this section to fleets where the use of alternative fuels would have a significant beneficial effect on energy security and the environment.

(e) AUTHORIZATION OF APPROPRIATIONS.—There are authorized to be appropriated to the Secretary for carrying out this section,

ATTCH VII

REPLACEMENT FUELS, ALTERNATIVE FUELS, AND ALTERNATIVE FUELED PRIVATE VEHICLES

SEC. 501. MANDATE FOR ALTERNATIVE FUEL PROVIDERS.

(a) IN GENERAL.—(1) The Secretary shall, before January 1, 1994, issue regulations requiring that of the new light duty motor vehicles acquired by a covered person described in paragraph (2), the following percentages shall be alternative fueled vehicles for the following model years:

(A) 30 percent for model year 1996.
(B) 50 percent for model year 1997.
(C) 70 percent for model year 1998.
(D) 90 percent for model year 1999 and thereafter.

(2) For purposes of this section, a person referred to in paragraph (1) is—

(A) a covered person whose principal business is producing, storing, refining, processing, transporting, distributing, importing, or selling at wholesale or retail any alternative fuel other than electricity;

(B) a non-Federal covered person whose principal business is generating, transmitting, importing, or selling at wholesale or retail electricity; or

(C) a covered person—

(i) who produces, imports, or produces and imports in combination, an average of 50,000 barrels per day or more of petroleum; and

(ii) a substantial portion of whose business is producing alternative fuels.

(3)(A) In the case of a covered person described in paragraph (2) with more than one affiliate, division, or other business unit, only an affiliate, division, or business unit which is substantially engaged in the alternative fuels business (as determined by the Secretary by rule) shall be subject to this subsection.

(B) No covered person or affiliate, division, or other business unit of such person whose principal business is—

(i) transforming alternative fuels into a product that is not an alternative fuel; or

(ii) consuming alternative fuels as a feedstock or fuel in the manufacture of a product that is not an alternative fuel,

shall be subject to this subsection.

(4) The vehicles purchased pursuant to this section shall be operated solely on alternative fuels except when operating in an area where the appropriate alternative fuel is unavailable.

(5) Regulations issued under paragraph (1) shall provide for the prompt exemption by the Secretary, through a simple and reasonable process, from the requirements of paragraph (1) of any covered person, in whole or in part, if such person demonstrates to the satisfaction of the Secretary that—

(A) alternative fueled vehicles that meet the normal requirements and practices of the principal business of that person are not reasonably available for acquisition; or

(B) alternative fuels that meet the normal requirements and practices of the principal business of that person are not available in the area in which the vehicles are to be operated.

(b) REVISIONS AND EXTENSIONS.—With respect to model years 1997 and thereafter, the Secretary may—

(1) revise the percentage requirements under subsection (a)(1) downward, except that under no circumstances shall the percentage requirement for a model year be less than 20 percent; and

(2) extend the time under subsection (a)(1) for up to 2 model years.

(c) OPTION FOR ELECTRIC UTILITIES.—The Secretary shall, within 1 year after the date of enactment of this Act, issue regulations requiring that, in the case of a covered person whose principal business is generating, transmitting, importing, or selling at wholesale or retail electricity, the requirements of subsection (a)(1) shall not apply until after December 31, 1997, with respect to electric motor vehicles. Any covered person described in this subsection which plans to acquire electric motor vehicles to comply with the requirements of this section shall so notify the Secretary before January 1, 1996.

(d) REPORT TO CONGRESS.—The Secretary shall, before January 1, 1998, submit a report to the Congress providing detailed information on actions taken to carry out this section, and the progress

ATTCH VIII

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Goal ~~actually~~ actually [illegible]

SEC. 507. FLEET REQUIREMENT PROGRAM.

(a) FLEET PROGRAM PURCHASE GOALS.—(1) Except as provided in paragraph (2), the following percentages of new light duty motor vehicles acquired in each model year for a fleet, other than a Federal fleet, State fleet, or fleet owned, operated, leased, or otherwise controlled by a covered person subject to section 501, shall be alternative fueled vehicles:

(A) 20 percent of the motor vehicles acquired in model years 1999, 2000, and 2001;

(B) 30 percent of the motor vehicles acquired in model year 2002;

(C) 40 percent of the motor vehicles acquired in model year 2003;

(D) 50 percent of the motor vehicles acquired in model year 2004;

(E) 60 percent of the motor vehicles acquired in model year 2005; and

(F) 70 percent of the motor vehicles acquired in model year 2006 and thereafter.

(2) The Secretary may not establish percentage requirements higher than those described in paragraph (1). The Secretary may, if appropriate, and pursuant to a rule under subsection (b), establish a lesser percentage requirement for any model year. The Secretary may, by rule, establish a date later than 1998 (or model year 1999) for initiating the fleet requirements under paragraph (1).

(3) The Secretary shall publish an advance notice of proposed rulemaking for the purpose of—

(A) evaluating the progress toward achieving the goals of replacement fuel use described in section 502(b)(2), as modified under section 504;

(B) identifying the problems associated with achieving those goals;

(C) assessing the adequacy and practicability of those goals; and

(D) considering all actions needed to achieve those goals.

The Secretary shall provide for at least 3 regional hearings on the advance notice of proposed rulemaking, with respect to which official transcripts shall be maintained. The comment period in connection with such advance notice of proposed rulemaking shall be completed within 7 months after publication of the advance notice.

(4) After the completion of such advance notice of proposed rulemaking, the Secretary shall publish in the Federal Register a proposed rule for the rule required under subsection (b), and shall provide for a public comment period, with hearings, of not less than 90 days.

(b) EARLY RULEMAKING.—(1) Not earlier than 1 year after the date of the enactment of this Act, and after carrying out the requirements of subsection (a), the Secretary shall initiate a rulemaking to determine whether a fleet requirement program to begin in calendar year 1998 (when model year 1999 begins), or such other later date as he may select pursuant to subsection (a), is necessary under this section. Such rule, consistent with subsection (a)(1), shall establish the annual applicable model year percentage. No rule under this subsection may be promulgated after December 15, 1996, and be enforceable. A fleet requirement program shall be considered necessary and a rule therefor shall be promulgated if the Secretary finds that—

(A) the goal of replacement fuel use described in section 502(b)(2)(B), as modified under section 504, is not expected to be actually achieved by 2010, or such other date as is established under section 504, by voluntary means or pursuant to this title or any other law without such a fleet requirement program, taking into consideration the status of the achievement of the interim goal described in section 502(b)(2)(A), as modified under section 504;

(B) such goal is practicable and actually achievable within periods specified in section 502(b)(2), as modified under section

ATTCH

IX

it would sufficiently diminish the economies of scale for the production of alternative fueled vehicles or alternative fuels and thereafter the practicability and effectiveness of such program, the Secretary may only modify or suspend the program nationally. The procedures shall include provisions for notice and public hearings. The Secretary shall deny or grant the petition within 180 days after filing.

(o) MANDATORY STATE FLEET PROGRAMS.—(1) Pursuant to a rule promulgated by the Secretary, beginning in calendar year 1995 (when model year 1996 begins), the following percentages of new light duty motor vehicles acquired annually for State government fleets, including agencies thereof, but not municipal fleets, shall be alternative fueled vehicles:

(A) 10 percent of the motor vehicles acquired in model year 1996;

(B) 15 percent of the motor vehicles acquired in model year 1997;

(C) 25 percent of the motor vehicles acquired in model year 1998;

(D) 50 percent of the motor vehicles acquired in model year 1999;

(E) 75 percent of the motor vehicles acquired in model year 2000 and thereafter.

(2)(A) The Secretary shall within 18 months after the date of the enactment of this Act promulgate a rule providing that a State may submit a plan within 12 months after such promulgation containing a light duty alternative fueled vehicle plan for State fleets to meet the annual percentages established under paragraph (1) for the acquisition of light duty motor vehicles. The plan shall provide for the voluntary conversion or acquisition or combination thereof, beyond any acquisition required by this title, of such motor vehicles by State, local, or private fleets, in numbers greater than or equal to the number of State alternative fueled vehicles required pursuant to paragraph (1).

(B) The plan, if approved by the Secretary, would be in lieu of the State meeting such annual percentages solely through purchases of new State-owned vehicles. All conversions or acquisitions or combinations thereof of any alternative fueled vehicles under the plan must be voluntary and must conform with the requirements of section 247 of the Clean Air Act and must comply with applicable safety requirements. The Secretary of Transportation shall within 3 years after enactment promulgate rules setting forth safety standards in accordance with the National Traffic and Motor Vehicle Safety Act of 1966 applicable to all conversions.

Department of Energy
Washington, DC 20585

April 18, 1995

The Honorable Ken Foster
Chairman of the Board
of County Commissioners
301 North Olive Avenue
West Palm Beach, Florida 33401

Dear Commissioner Foster:

On behalf of the U.S. Department of Energy's Clean Cities Program, I would personally like to congratulate you and the Palm Beach County Clean Cities partners on opening a new quick-fill CNG refueling station. The station opening represents another significant milestone in your efforts to fulfill voluntary commitments made in conjunction with joining the Clean Cities program.

This accomplishment is indicative of the type of local resourcefulness and dedication upon which the Clean Cities Program is based. Partnerships and activity at the local level remain the focal point of the Clean Cities process as we continue the push for widespread market acceptance of alternative fuel vehicles.

As one of the pioneer designees, Palm Beach County and the entire Florida Gold Coast coalition continue to demonstrate progressive leadership in the promotion and use of alternative fuels and alternative fuel vehicles. Your efforts serve as a model for the other 34 coalitions currently in the Clean Cities Program. I look forward to hearing more from Palm Beach County and the Florida Gold Coast Clean Cities Program during this, our second year of the Clean Cities Program. Once again, congratulations on the opening of the CNG refueling station and keep up the outstanding work.

Best regards,

Christine Ervin

Christine A. Ervin
Assistant Secretary
Energy Efficiency and Renewable Energy

ATTCH X

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Comprehensive Plan addressing air quality concerns due to vehicle emissions shall be incorporated into this Element. Additionally, the bicycle will be examined as an alternative mode of transportation, since the use of bicycles does not increase air pollution.

[9J-5 citation: None]

> **Comments:** It was recommended that the vehicle emissions portion of this policy be transferred to the Traffic Circulation Element and only a cross-reference remain in the Air Quality section of the Conservation Element. In addition, it was recommended that the alternative mode of transportation of this policy be transferred to the Mass Transit Element and be deleted from this element.
>
> **Revisions to Policy 7-e:** A revision to this policy to cross reference ~~only~~ the vehicle emissions portion to the Traffic Circulation Element and ~~the other deletion of~~ the to Cross reference the alternative mode of transportation portion of this policy ~~or transfer~~ to the Mass Transit Element.

Policy 7-f: The County shall participate in the development and implementation of a non-gasoline powered demonstration program that utilizes "alternate fuels" to operate fleet vehicles. Maintaining acceptable levels of air quality, preserving natural resources, saving money through lower fuel costs and less maintenance, and reducing reliance on foreign oil imports are the main objectives of the program. The County's participation will involve performing vehicle conversions, assisting in the establishment of a refueling station, vehicle maintenance, recordkeeping and "technology transfer" with other interested public or private fleet operators. Participation will be contingent on the availability of a dedicated funding source approved by the Board of County Commissioners. The County's Fleet Management Division, in close coordination with the HRS Palm Beach County Public Health Unit's Air Pollution Control Section, will be primarily responsible for this program. ✓

[9J-5 citation: None]

> **Comments:** This policy has been achieved and should be retained as a maintenance policy. This policy is implemented through the provisions and coordination of the Fleet Management Division and the Palm Beach County Public Health Unit.
>
> **Revisions to Policy 7-f:** A minor revision to this policy is recommended to delete the words "participate in the development and implementation of" and replace with the words "continue to promote and expand".

✓